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CONFERENCE PROGRAM

FRANK FREMONT-SMITH

IT GIVES me great pleasure to greet our members and to welcome our guests. May I take just a minute to remind you of the origins of this Conference Group and of our Foundation's active interest in the field of aging It was Dr. Cowdry who brought to the attention of Dr. Ludwig Kast, the first president of the Foundation, the need for a comprehensive survey of the field of aging, and Mr. Frank who suggested that the contributors to Dr. Cowdry's volume would make a more integrated approach to the problem if they could meet informally to exchange ideas. The resulting two-day conference at Falmouth, Massachusetts, in 1937 proved to be the first meeting of this group, although it was not until the second meeting, held in 1940 under the stimulus of Dr. Korenchevsky that the "Club for Research on Problems of Aging" was inaugurated. Two years ago the "Club" changed its name to the "Conference on Problems of Aging."

The Foundation is now sponsoring thirteen such conference groups covering a wide range of medical research problems, which meet annually for two days of informal discussion. In each group are represented all the disciplines of professions which can contribute to the problem A major goal of our Conference Program is to improve understanding and communication between the various disciplines We have found that the isolation of departments and professions within [illegible]
entific [illegible]
disciph [illegible], however, that the advance of science requires the multiprofessional approach which is essential to the understanding of nature.

We subscribe to the basic philosophy that nature is all of one piece. From star dust to United Nations, from the energy within the nucleus of the atom to the energy within ourselves which motivates our behavior, nature knows no boundaries, and we cannot further an understanding of nature and of ourselves, as part of nature, if we accept the departmental isolation which has developed within the universities. Therefore, our whole Conference Program is focused upon bringing together groups of scientists with a variety of technical backgrounds who are concerned with the common problem so that they may exchange ideas, get new ideas, correct

INTRODUCTORY REMARKS

ROY G. HOSKINS
Chairman

Of course the problems of aging are essentially the problems of being a human being but in a somewhat special setting. As Dr. Fremont-Smith suggested, we necessarily are going to have to go far afield if we do our job of analyzing the problem as of 1950. There are various ways in which one can approach the topic. Any approach that sets off one or the other facet is artificial. However, we are dealing with an intricately woven network which of necessity, for convenience in keeping the discussion in order, involves a somewhat artificial approach. The most effective type of artificiality is, I believe, the general concept of integrated evolution. So it seemed desirable this year to approach the topic at the psychological-social level, regarding economics as one special phase of sociology.

I, for one, take very seriously the suggestion of the Foundation that we deal with problems rather than formulated, established answers.

Mr. Lawrence K. Frank has consented to fire the opening gun. It is my conception—his approach may be different—that he will talk primarily about the nature of human nature, and the problems arising from that.

ideas, find ways and means of spontaneous coöperation and of communication across boundaries which are artificially and often rather rigidly maintained in our universities. We are also inclined to believe that since knowledge from every field is flowing in at a progessively accelerated rate, unless some deliberate thinking and planning is done to provide channels of communication adequate to deal with such an inflow of knowledge, progress will be frustrated.

A word to the guests about procedure. We are emphasizing informality. The whole focus of our meetings is on discussion rather than on formal presentations. Everything that you say is being taken down by our stenotypist for the Transactions but we want you to feel quite comfortable about this because you will have the opportunity to revise or delete your discussion before the Transactions are published. Therefore, we hope you won't hesitate to speak spontaneously and informally. What you say may not be too wise, but how can you be sure it won't evoke wisdom in someone else! It is the evocation of other people's responses that we are particularly interested in. So please really get into the spirit of give and take and don't hesitate to argue and disagree with any of us.

INTRAPERSONAL ASPECTS OF GERONTOLOGY

LAWRENCE K. FRANK
New York, New York

THE TWO topics for today's discussion are first, intrapersonal aspects and second, interpersonal aspects of *gerontology*. They offer two foci for discussion of aging viewed in terms of what may be occurring within the personality of the aging individual and what may be happening in his interpersonal relationships. For purposes of orderly discussion we may accept this separation, but it must be evident that there is no actual dichotomy between the intrapersonal and interpersonal. What we can say is that the dynamic processes in operation are partly revealed with greater or lesser ambiguity in the overt activities of individuals as we may observe their interpersonal relationships, but for the most part they are concealed in the individual's private world where we can only infer from various signs what may be going on in what we call the intrapersonal relationships.

There have been many studies of these intrapersonal aspects, including the well-known studies of learning in later maturity and of intelligence as measured by standardized tests; a few by projective methods, some questionnaires on what older individuals feel, think and believe; interviews, both patterned and open ended; and also many case histories, including some psychoanalytic cases.[1]

While these studies are still meager compared with the much larger amount of material on the earlier years of life, they offer a considerable body of material and many promising leads for further study as well as more intensive investigation of some of their findings.

What is to be noted is that these various studies, using different methods and techniques, are based upon a number of different and often irreconcilable conceptions of personality and conflicting assumptions about human nature. They range all the way from those that still accept the Calvinistic-Augustinian conception that man is evil, innately sinful, or fallen from grace; or afflicted with some destructive or death instincts, as some of our analytic friends

[1]Specific reference to these studies: SHOCK, N. W., Gerontology (Later Maturity), *Annual Review of Psychology*, 2, 353-379, 1951. Stanford. Annual Reviews, Inc.

which we can and do modify when experience has shown that they need to be changed.

What then are some of the assumptions we might make that would help us to study and understand aging in personalities?

I believe we can learn from many recent studies and reports that human nature, the human mammalian organism, has many potentialities and that different cultures have selectively recognized, cultivated, approved, and rewarded some of those potentialities and have rejected, repressed, discarded, neglected others. The personality, as we call it, is largely shaped by what each culture has selectively approved and tried to use among the many potentialities of human nature.

Also, we may assume that each personality has a life history; that he undergoes a process of growth, development and maturation and, in later years, of involution leading to senescence. What this process has involved from birth on in the way of learning, unlearning, relearning, modifications, adjustments, and transformations, gives rise to what we call the personality.

Now frequently we make this last assumption as though it involved a series of discontinuous episodes of taking in, eliminating, discarding, or absorbing specific entities or forces, much as if the personality were a house in which the furniture and activities, including members of the household, were changed from time to time but the house persisted.

May I then try to sharpen this concept of life history by asking: what is it that persists? Is it certain specific traits, capacities, functions, instincts, behavior patterns? Is it some mysterious psychic entity, like the soul, or consciousness, ego, the unconscious, a superego, or similar concepts? We are faced here with the lack of conceptual clarity, the absence of a more precise assumption of what it is that has a life history, that grows and develops and ages and learns and adjusts Obviously, we have an organism that continues, persisting from the beginning of conception to the end of the life cycle The organism undergoes growth, development, maturation, involution, aging, and changes in size, shape, weight, capacities, and functions and in overt behavior. Moreover, as we are discovering, the everchanging but persistent organism exists and maintains itself only by a continuous dynamic process of reciprocal intercourse, of *transactions* (to use Dewey's term) with the surrounding environment. The organism is continually re-

assert. The basic idea is that man is possessed of an evil nature. Then we have the other viewpoints going to the extreme that man is essentially good but is ruined by society. These theoretical differences are more or less inevitable today when we are slowly emancipating ourselves from ancient traditions about human nature and struggling to think in terms of the new dynamic concepts now being developed.

Most of what is called "dynamic" psychology today is still, I assert, largely static, relying upon a variety of forces, drives, instincts, *ad hoc* specific entities to explain what a personality does and feels. These assumptions are characteristic of static theory, in which we invoke something which may be a force, a drive, or an agent, to move something that is assumed to be inert, like particle physics, and cannot be altered without these entities, or forces. It sometimes appears that the most vigorous resistance in the development of a dynamic theory comes from some of the expounders of "dynamic" psychology who find it difficult to give up some cherished metaphors they are using without realizing that they are just metaphors. There is also much resistance and opposition coming from those trained to think and operate in terms of the 19th century particle physics and its analogies in biology and psychology and who insist that the only scientific problem is the relation between two variables selected from these supposed forces, drives, factors, etc. At a recent meeting, a representative of psychometrics stated that there could be no scientific knowledge about personality unless it was derived from a standardized test and presented in quantitative results!

Today if we are to have some fruitful discussion of how we can forward gerontology, especially in studying these intrapersonal and interpersonal areas, we might consider what kind of assumptions we can make that will provide promising fields to further research. Here I would like to quote what Albert Einstein said some years ago—"We now realize, with special clarity, how much in error are those theorists who believe that theory comes *inductively* from experience" (1).

I interpret this and similar statements from others that we must today recognize, that we are always guided by some theory or assumptions and that we think in conceptual terms. What we see, what we look for, the way in which we state our problems and what we find, the "facts" we obtain and how we interpret them—all of these are governed primarily by theoretical assumptions

which we can and do modify when experience has shown that they need to be changed.

What then are some of the assumptions we might make that would help us to study and understand aging in personalities?

I believe we can learn from many recent studies and reports that human nature, the human mammalian organism, has many potentialities and that different cultures have selectively recognized, cultivated, approved, and rewarded some of those potentialities and have rejected, repressed, discarded, neglected others. The personality, as we call it, is largely shaped by what each culture has selectively approved and tried to use among the many potentialities of human nature.

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placing itself, not only by new cells, new fluids and tissues, and bony structures, but with the chemical constituents of all these which are in continual flux as the organism takes in, retains, eliminates, incorporates, and utilizes what it needs, and discards what it no longer can use or retain (2).

Now at any one period in the life of the maturing organism we might well ask how much of the original infant is still here. How much is this organism we identify as the same individual, only a persistent configuration, a continuing pattern, the constituents of which are largely being constantly replaced by new and different constituents? Thus we are confronted with a living organism which is simultaneously maintaining its functional operations and by these same processes continually changing and renewing itself, including growth and aging. Here I believe we should begin to think in terms of a more dynamic conception than we have in the past.

These comments on organism have a direct bearing on problems of personality and the intrapersonal aspects of gerontology as I see it. We should conceive of personality as an expression of the same dynamic processes that are occurring in the organism as it moves through its life cycle. We should think of the life cycle of the organism as it persists, as an identifiable individual who is undergoing a continual series of alterations and changes. Is there any term we can use to designate this dynamic circular process which operates organically and as personality? For the present I can only suggest the very ambiguous term "transformation," which implies the persistence of what we start with but also recognizes its continual alteration, modification, replacement, and multidimensional activities through time, with continuity and persistence yet continual change.

Let me then suggest looking at the personality process as that which is uniquely a human capacity which makes possible the transformation of the human infant, starting as a young mammalian organism, into a participating member of society, a bearer of traditions who learns to live in a symbolic cultural world and, while undergoing these varied experiences, emerges as a personality.

From the growing knowledge of other cultures we are recognizing how much of what we call personality is patterned and shaped by cultural standards. Similarly, we are discovering that the human organism has the fewest coercive "instincts." Inasmuch as human activity is so variously patterned, man is uniquely capable

of learning and of transforming his functional activities and organic needs, as well as his naive impulsive behavior and emotional reactions, into more or less orderly, purposeful conduct addressed to goals and values as defined by his cultural traditions. In these terms we can, I believe, begin to develop a dynamic theory of personality development and aging.

We can indicate a number of distinguishable aspects in this process of transformation; these are never separable nor isolatable but for discussion we can focus on each of a few of these major separable sequences of changes and see what appears to be happening.

Here I find myself baffled by the lack of an adequate language to discuss the kind of dynamic circular process that we should try to formulate. It may be helpful to show this by a diagram that visually indicates the concomitant operations we must consider. This diagram is a fumbling attempt to indicate by symbols what cannot be put into words, because words are discrete and often static. They chop up existence and fractionate processes and operations into "tissue [illegible] by our customary [illegible] of everything goi[illegible]. When trying to s[illegible] terpersonal we ma[illegible] a line which we call the skin, which separates the individual organism and the outside world. Inside the skin is all internal environment with various orifices, channels, spaces into which the environment enters, and outside the skin is external environment, into which the organism enters. In this external environment is the "*life space*" of the person. Internally a number of different lines may be drawn to indicate the different functional processes that are operating concomitantly with different rhythms and cycles of *intensity*, *magnitude*, *duration*, and so forth.

We may start with the newborn infant who arrives as a functioning organism which has before birth been actively functioning and exercising most of the processes that he will continue to exhibit in postnatal life.

The life space of the fetus has been limited and its organic needs have been met through the intimate, almost parasitic relationship to the mother. Birth is, despite its sometimes traumatic impact, only an incident in the life career, but it is of major significance since the newborn must immediately begin his lifelong

relationships with nature that are essential to organic existence.

While the newborn comes with all "the wisdom of the body," his several organ systems and functional processes are efficient but not yet articulated. He has little homeostatic capacity and so is easily disturbed physiologically. When disturbed he may respond with undue magnitude, as shown by greatly accelerated heart rate and respiration, as well as rise in bodily temperature. In addition he cannot quickly recover his equilibrium, whereas later on these extreme physiological fluctuations are checked by his own internal regulating processes.

The infant's life space is small, being limited to the immediate contacts with his crib and with his mother or her surrogate. But at birth the external environment begins to enter into the infant organism which, in accordance with its physiological state and organic needs, responds functionally. Thus air rushes into the lungs and is exhaled as respiration is established, at first often with various irregularities. The infant also takes in food as provided by the mother who also protects him from wet and cold and gives him mothering and cuddling, with soothing, reassuring sounds. Soon after birth the infant excretes urine and feces, and also eliminates water through respiration and perspiration. These functional processes of elimination are governed by his own physiological state and organic needs. Similarly the infant sleeps when he is in need of sleep.

It may be said that the newborn initially is responsive to the direct impacts and intakes from the environment and his functional processes are governed by his organic needs which are met by the mother or surrogate.

Here we may find some promising clues to a better understanding of personality viewed as a dynamic circular process that becomes established as the infant's physiological self-regulating functional activities are progressively modified by the cultural agents which interfere, regulate, deprive, indulge and otherwise treat him so that his organic needs are transformed into the goal-seeking, purposive conduct for deferred and often symbolic fulfillments. In and through these learned patterns the organism carries on its functional processes and the personality learns to live according to meanings and values of his cultural environment.

We may break down this generalized process into its now recognizable components by noting that the infant organism can exist only by carrying on its bare functional activities and finding

fulfillment (in part at least) of its organic needs. We must also realize that in order to live in our social-cultural world the child must progressively alter his functional processes and transform his organic needs into the group-sanctioned channels and patterns of permitted fulfillment. Only by the prolonged and often arduous socializing and culturing of the human infant does the personality emerge as the individual's way of living in the social-cultural world and meeting the demands and the opportunities offered him in childhood, adolescence, adulthood, involution, and senescence.

If we examine more closely some of the more specific operations in this prolonged maturation, we may gain a clearer conception of what is involved and how it dynamically operates.

Thus air must be continually taken in and exhaled uninterruptedly (except for brief periods). Respiration soon becomes more or less regularized and utilized for crying for food or assistance, for expressing emotions and later for talking and singing. The process of respiration all through life serves the organic need of oxygen and removal of carbon dioxide plus water; but the respiratory function and this continual organic need for intake and exhalation of air becomes patterned into a vehicle of expression and communication. Moreover, the respiratory function may become more or less persistently disturbed as in asthma, periodically interrupted as in breath holding and sobbing or in stammering and stuttering

The newborn, like other mammalian cubs, needs close, warm contacts, which in the infrahuman include licking by the mother and nuzzling or rooting. These ministrations appear to provide relaxation and comfort through one of the most primitive sensory processes, tactual stimulation. This organic need is transformed into desire for dependence, reassurance, and other aspects of interpersonal relations.

The subsequent role of tactual sensitivity and of this basic organic need for tactual contacts and stimulation is largely unknown. It seems to become dormant or latent in childhood and to be revived at adolescence when it becomes transformed into the major channel of sexual approach and communication, not only in the genitals, but in the various erogenous zones and indeed all over the body which is sensitive to caresses and other soothing-exciting contacts. Thus the infantile organic need for close bodily contacts and tactual stimulation is transformed into a desire for tenderness,

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affection and love or in some cases for anesthesia, rejection of intimacy, or desire for painful treatment (as by masochists). In these experiences the individual also learns to give such tactual stimulations to others.

What is called sexual in current formulations of infantile sexuality *followed by the so-called latency period* may be interpreted as primarily tactual. This primitive need to be touched and soothed, to be in close contact, may be essentially tactual, instead of what is now called sexual. The infantile need for tactual experience and its fulfillment or deprivation appears to be of major significance in sexual maturation when the gonadal-genital processes become functionally active.

This suggested revision of contemporary formulations might clarify the meaning of early tactual experiences and establish a useful distinction between tactual (*including tactual manipulation* of the genitals before puberty) and sexual in which a new functional process and organic need arise, involving tactual stimulation and greatly enhanced tactual sensitivity which may be attributed to these gonadal-genital processes. Likewise in the postinvolutional and senescent individual these tactual sensitivities may persist long after the gonadal-genital functions have become dormant, if not atrophied.

Here in the transformation of tactual stimulation we see a parallel to the transformation of breathing into patterns of human communication, together with a changing sensitivity.

Hearing may be briefly noted as another sensory process which operates in the infant as a functional process of awareness and gross orientation (as in Moro or startle response) but which becomes transformed into a highly sensitive process of discrimination and symbolic recognition. Smell apparently is so vestigial that it is difficult to follow its career, but apparently smell becomes specifically patterned in the sense that while general sensitivity may be lost, specific sensitivity may be established in individuals. Thus their peculiar sensitivity may govern their activities, *especially* in seeking to avoid certain smells.

In much the same way vision operates as general orientation but becomes progressively patterned into more specific awareness and recognition of what becomes significant in the life space.

As indicated later, sensory sensitivity is increasingly modified by experience so that the individual develops a highly selective

awareness and a variable sensitivity both enhanced and diminished with respect to the life space.

Food and drink satisfy organic needs, which arise from lowered blood sugar and gastric contractions and are manifested by what we call hunger. Thus the infant becomes hungry at intervals governed by his physiological state and cries for, or expects, food to allay this primitive hunger. As the cultural agent begins to regulate feeding, the infant learns to transform his organic hunger into appetite. This involves desiring food at the intervals set by his family patterns, eating only those foods he has learned to take, under conditions and with the concomitants that make eating a social-cultural practice.

Under this tuition the child progressively ceases to be driven by hunger, his blood sugar levels become increasingly regulated by social-cultural patterns He learns to seek food on the occasions that will arouse his appetite, thus transforming the functional processes of eating into a purposive activity for deferred satisfactions.

He finds early in life that food is satisfying and desirable or quite the reverse; eating then becomes a pleasurable experience or may become a means to *please or to fight* mother Moreover, the processes of digestion and assimilation of food in the gastrointestinal tract may become a channel for expressing or releasing tensions and acute emotional reactions that the child will continue to utilize in later life. Thus the basic organic need for food may become transformed into a variety of purposeful activities and expressions of emotions, as in overeating and anorexia, fasting and feasting, and food rituals

Elimination in the infant is a physiological function that the organism performs through excretion of urine and feces when the accumulated contents of the bladder and rectum require release. Parental care sooner or later begins to regularize and control elimination by various practices. The organic need for elimination continues but the excretion of *urine and* feces is progressively timed and patterned into regular bowel movements and periodic urination, at specific times and places, with increasing attention to sanitation, cleanliness, privacy, modesty, and even shame. Elimination thus is transformed from a physiological function and satisfaction of an organic need into a socially controlled process. The infant may have satisfaction (pleasure) in bowel movements or become tense and continually disturbed; he may use elimination

to please or to resist the parent; he may transform elimination into a great variety of activities and symbolic fulfillments. In some cultures defecation rituals are highly elaborated and in our own culture the control of elimination often becomes a highly significant goal-seeking activity with a great variety of symbolic expressions.

Sleep in the infant is governed by organic needs but is increasingly regulated and controlled by parents who insist that the child sleep according to their schedule for naps, bed hours, etc. In undergoing this transformation the child may resist or pretend submission, he may utilize a variety of devices to postpone or evade the set hour; he may use sleep as a way to please or resist the parent and develop various rituals and/or fetishes, for sleeping. During sleep dreams occur which fulfill a variety of needs and purposes, including symbolic fulfillments and vicarious consummations of the organic needs that the child and later adult has partially or completely transformed.

It appears then that the functional processes that serve basic organic needs are progressively channeled and patterned into the purposive activities that bring partial fulfillment of those organic needs and also of the vicariates and symbolic fulfillments that have become established as the individual's goals.

Organic needs, we may say, are transformed into desires, wants, wishes, goals, and deferred consummations, to attain which the individual learns a variety of skills, patterned activities and relationships. The basic mammalian organism persists and, to some extent, finds what it needs for existence and functional operation in and through these transformed activities.

In the course of this parental regulation and patterning of the child, we may observe a progressive surrender of his physiological autonomy as his functional processes and organic needs become less expressive of the internal environment and become more responsive to, and controlled by, the social-cultural patterns that regulate his autonomic processes. In this way the child is partially freed from the coercion of his own organic necessities and so is not driven by hunger, compelled to eliminate, etc. Being more or less freed, the child can accept these external requirements and transform his functional processes and organic needs into these socially sanctioned activities and relationships.

Here we see the great service of culture as man's own invention for utilizing his organic needs and potentialities, especially his

capacity for ideas, speech and symbolic conduct, to establish and maintain a human way of life, dedicated to goals and values. He never ceases to be a mammalian organism, nor to escape from its functional operations, but he can and does utilize these for social living, as no other organism has been able to do.

It is the idiomatic goal seeking and progressive striving into which the mammalian functional processes are channeled and transformed that constitute the core of the emerging personality and give the clue to an understanding of how personality develops and operates.

Emotions and emotional reactions present the most vexing problem in this development, especially since the term "emotion" has so many different meanings and is used in such confusing ways. It may be helpful, therefore, to indicate how emotions may be approached without some of the present ambiguities and conflicting meanings.

As pointed out earlier, the infant has little effective capacity for homeostasis: the young organism reacts with a total overall response to any provocation—pain, cold, hunger, shock Apparently, the infant is not only physiologically easily disturbed, but he is very sensitive to all stimulation and incapable of the discrimination that he will later develop along with his increasing internal stability

This total organic response of the infant to every situation is the prototype of what we call emotional reaction. Hence, we may say that all infantile responses are initially emotional. Then gradually, as he becomes internally stabilized and less sensitive, or at least develops some discriminatory sensitivity, the infant becomes capable of response and of activities with little or none of this total bodily disturbance.

The functional processes of the total emotional reaction are primitive and resistant to alteration. The alarm reaction cannot apparently be abolished and the organism continues at least into senescence subject to provocation of pain, danger, frustration, deprivation, etc. The infant may become increasingly capable of meeting experience without being emotionally aroused as he becomes more stable, less sensitive and more confident. Or the infant may continue to be highly sensitive to emotional provocation, especially to certain specific kinds of provocation and by specific persons. The outcome will be governed not only by his organic make-

up and capacities, but by the experiences he undergoes in the parental regulation and controls described earlier.

Each of these experiences involves interference, deprivation, frustration, coercion and is accompanied by some love and affection and reassurance, to which the infant responds with emotional reaction. These emotional reactions become established with the specific patterns of activities, the purposive striving, the seeking of deferred and symbolic fulfillments through which the child learns to live in our social-cultural world.

It appears that early in life the infant develops confidence in the world as a place where he can feel relaxed and at peace, where he can trust and rely upon adults or as a place where he must be ever watchful, tense, on guard, ready to protest, to fight or to retreat. This feeling of confidence arises from a physiological state of stability that permits increasingly purposive, goal-oriented conduct without the tension, the disturbances and often violent overall emotional reactions that interfere with or block purposive striving and permit only direct, almost reflex, reactions to immediate situations.

In learning to face provocations to emotional reactions, the child operates much as he does in learning to regulate elimination. He experiences the intravesicular pressures, but deliberately inhibits the release of the sphincter that those pressures initiate and so holds the urine or feces until he can urinate or excrete in the appropriate place. When emotionally provoked but not permitted to react in words or actions, the child "holds in," inhibits the angry expression or fearful response, until he can release them later, directly or in various vicariates, surrogates or symbolic expressions. Sometimes the child learns to become anesthetic by decreasing his sensitivity. If he cannot find or use the available releases, the physiological disturbance may be resolved through one or more of the fundamental processes of breathing, eating, drinking, sleeping, elimination or the purposive striving, goal-seeking activities into which these have been channeled. Occasionally, a child may cease to feel and become "cold" and unmovable.

Under repeated emotional provocation the individual may develop a persistent physiological state, a chronic affective reaction, of constant watchfulness for emotional provocations in order to inhibit expression of the emotions that have been forbidden. Thus anger and rage, the acute reactions, are transformed into persistent hostility, and fear into guilt and anxiety (to use current

terms). These operate as alterations in physiological functions and may be channeled into one or more of a great variety of functional processes (psychosomatic disorders), of overt activities of conduct or speech, of symbolic expressions and disguised outlets. Or the child may become constricted and rigid.

It is his functional processes and these emotional reactions that give rise to the purposive conduct of the maturing personality; therefore repression of these emotions may deprive the individual of the potentialities for learning and for productive living. Whatever is denied possibility of expression cannot be transformed into patterned conduct Thus the child who has been compelled to inhibit his impulses and emotional reactions cannot, and does not, usually learn, he becomes fixated at that level and the impulses and reactions may then operate as self-defeating.

As he grows older the individual may have increasing difficulty in managing his emotional states and when unable to find a socially acceptable pattern for disguised actions (e.g., competitive striving for release of hostility), he may be seriously disturbed; as in the aged who no longer can participate in their former activities.

A significant and perplexing problem arises when we attempt to discover how much of the individual's activities are colored by, or are direct expressions of, these otherwise unreleased, unexpressed [illegible]

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It is important that we attempt to find some more precise and operational meaning *for the role* of emotions and recognize how frequently the *physiological* functional reaction of emotions is blocked. Here, as pointed out later, in the development of inhibitions of impulsive behavior toward things and persons declared inviolable, there is a physiological provocation to emotional reaction which is not permitted to occur and so the person must learn to inhibit, control and otherwise subordinate his own functional processes to the social-cultural restrictions. As may be seen in the patterning of sexual impulses and responses, organic needs and functional responses become amenable to parental and social limitations and even complete blocking.

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A significant and perplexing problem arises when we attempt to discover how much of the individual's activities are colored by, or are direct expressions of, these otherwise unreleased, unexpressed physiological states called emotion, which may be released at a later time or discharged upon irrelevant situations and persons. What is confusing is the tendency to view emotions and emotional responses as having a peculiarly different origin and functioning from other physiological functions and to attribute much of the deviant activities of individuals to "emotional conflicts" as a general process or "catchall" operation or as the origin of all such activities.

It is important that we attempt to find some more precise and operational meaning for the role of emotions and recognize how frequently the physiological functional reaction of emotions is blocked. Here, as pointed out later, in the development of inhibitions of impulsive behavior toward things and persons declared inviolable, there is a physiological provocation to emotional reaction which is not permitted to occur and so the person must learn to inhibit, control and otherwise subordinate his own functional processes to the social-cultural restrictions. As may be seen in the patterning of sexual impulses and responses, organic needs and functional responses become amenable to parental and social limitations and even complete blocking.

It is especially important to bring the problem of emotions into a frame of reference where the emotional processes may be viewed as undergoing much the same interference, regulation, and outside control as other functional processes. It may help to remember that in learning so-called emotional control, the child must decrease his sensitivity to emotional provocation which his maturation and increasing physiological stability should make possible.

Being a primitive function, emotional reactions, like other functional processes that have been regulated and transformed, may be reactivated under conditions that evoke their full physiological reaction and supersede the learned patterns and channels of socially approved conduct.

As Kurt Goldstein (3, 4) has emphasized, the human organism has the capacity to equalize stimuli so that it can maintain a constant threshold and thus maintain its own orderly activities and internal stability in an ever changing environment. This varying perceptual sensitivity is the necessary concomitant of the internal homeostatic processes and the sensory and the autonomic processes are reciprocally responsive. As pointed out later, the child learns to rely upon patterned perception for his orientation, replacing the naive sensory awareness through which he has responded impulsively to the world of direct experiences. This patterned perception operates to alter his sensitivity to provocations and to channel his emotional reactions and his chronic feelings according to the group-approved patterns.

Here we may find an answer to the question of what persists in the continuing organic functions of eating, elimination, sleeping, tactual sensitivity-responses, emotional sensitivity-reactions which are altered and transformed into a variety of purposive strivings that usually are modified and often replaced by different patterns as the individual grows and matures. At each of the major turning points one or more of the earlier established patterns or modes of functioning may be superseded by another pattern that will fulfill the same or equivalent functional purpose that is thus oriented and utilized in a different way. These successive transformations in the purposes or goals sought, into which basic functional processes and organic needs have been channeled and in which they find actual or symbolic fulfillment, involve two highly important alterations. The person must change his sensitivity-susceptibility, alter his threshold so that he will no longer be responsive to the situation-event-people to which he has hitherto been oriented, and also he must learn new patterns of action, speech, and feeling

to replace the older patterns that he abandons as a step in his maturation. But in each of these alterations what he gives up must be replaced by a psychological equivalent in and through which his idiomatic functional processes and organic needs can find the kind of fulfillment he has learned to seek or now finds satisfying or acceptable. Thus it is the way he approaches life, the orientation and interpretation he gives to all situations, and the emotional response or feelings he brings to each event that persist and find expression in these successive alterations and transformations.

These early alterations in functional processes are soon involved in the other modifications and transformations that the growing infant undergoes as he begins to move around. As he learns to creep, crawl, walk, to reach out, and to grasp or to manipulate objects and persons, he enlarges his life space and actively explores its varied components and its many potentialities.

Initially, the small child approaches the world naively and impulsively, sensitive to whatever may be reached. But very soon his eager explorations and manipulations are regulated and controlled and he is required to alter his impulsive behavior. Here we see the beginning of the lifelong process of living in a world defined by cultural traditions and social prescriptions which involves the dynamic circular process of putting meaning into the world and then responding to that meaning which the individual has imputed to situations, with the patterns he has established as his idiomatic way of conforming and performing, according to adult requirements It is worth noting that as the external world enters into the organism as air, food, and water, these intrusions are selectively accepted and utilized by the learned, transformed functional processes described above. As the child ventures into the external world, its component [illegible]
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to impose [illegible] the activities he establishes as his way of dealing with that defined world as he seeks fulfillments, actual or symbolic. In both the internal and the external world, these alterations are brought about by cultural agents who operate upon the child, shaping, patterning, and defining whatever he does as their way of making him a participating member of the social order and an active bearer and perpetuator of tradition. The personality of these parental or adult agents is infused into whatever the child learns, and how he feels toward them and their treatment of him may become the dominant characteristic of the life space he establishes.

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Accepting deferred consummations and striving for their attainment may become an engrossing, pleasurable activity, especially since it gains approval and often rewards beyond the consummations finally attained.

The child's growing ability to use language, to which he is sensitized early in life by maternal vocalizations, marks a further step in this process. Through language, parents define situations, instruct, command, and prohibit and the child learns to recognize and to respond to these symbols. He organizes his life space by imputing to situations the names and definitions of things, people and events as parents have so designated them and soon he becomes responsive to words as surrogates for what they symbolize.

Through language the child also learns to organize and interpret all his experience in terms of the basic assumptions and conceptions of his culture, as translated to him by parents and other significant persons in his life space. Thus he gradually gives up his naive sensory awareness and establishes the conceptually patterned perception of the world as it has been defined and explained to him and as he has understood these explanations. It is important to recognize that early in life the child begins to use "internal speech," talking to himself, debating with himself, rehearsing what has happened or is about to happen, and explaining, excusing

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image ... develops as his conception of the self, to be defended, explained or excused, whatever happens. A child with an image of the self as bad will interpret whatever he hears as confirming this belief even when others are making every effort to reassure him of their liking and admiration.

In and through this process of inculcation of traditional beliefs and conceptions, he learns to "see" the world and to understand whatever happens according to these group-sanctioned assumptions and to shape his conduct by their meanings. Again we see how the child begins the lifelong practice of investing the world with the meanings he is taught and then responding to what he ... created as stimul...

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In this period of exploration, the child is repeatedly blocked, deprived, frustrated, often punished for handling, taking, hitting, breaking or otherwise impulsively approaching objects and persons. He is required to learn that these objects and persons and places are inviolable and must not be touched or handled or hit, etc. He is expected to transform these external prohibitions into self-administered inhibitions, which take place as he learns to impute the parental definition of things to the world and to exhibit the appropriate conduct of not touching or taking in those defined situations. Apparently his sensitivity to forbidden things and inviolable persons is changed by the repeated blocking of his impulsive responses and of his naive emotional reactions to persons. Learning these inviolabilities, especially of persons, involves repeated emotional provocations to anger and gradual toleration of such frustrations, which again involves changes in sensitivity. This also involves an organization, or "structuralization of his life space" so that he puts the meaning of inviolability into situations and acts toward them in terms of his own imputation of meanings. In this way the child learns to respect private property and the integrity of others as necessary lessons for group living. Only later will he learn to establish the inviolability of his own possessions and his own person which in the family are rarely or ever respected.

Concomitantly the child is expected or compelled to inhibit his naive impulsive activities and to learn to use the prescribed patterns of conduct such as cleanliness, manners, etiquette, the masculine or feminine roles, etc. Again the child is required to learn the definitions of situations and the patterns appropriate therein and to exhibit the prescribed conduct, so that in the absence of parental instructions he will do what is required. His capacity for such self-directed activity may be limited by the feelings he may develop in response to the way these parental requirements are imposed and how he has reacted to parental coercion or punishment.

In learning to observe these inviolabilities and prescriptions, the child transforms his naive impulsive *behavior* into orderly, goal-seeking *conduct* in and through which he seeks the deferred consummations and symbolic fulfillments of his organic needs and functional processes. Thus the earlier functional transformations described above serve, and are served by, these transformations in overt activities which facilitate goal-seeking activities in a social world. These activities may be repeatedly modified and sometimes drastically changed as he grows older and is expected to exhibit conduct appropriate to his age and sex, his social status, etc.

of childhood (abandoned years before) as attempted resolutions of their difficulties. They may also utilize a variety of surrogates and vicariates, experiment with homosexual relations and otherwise seek to resolve the often intense conflict between what is forbidden and the urgency of functional processes that are continually being intensified by a society in which erotic appeals are widespread and inescapable.

For the most part, the person does not recognize how his sexual needs have been or are being transformed and hence is rarely aware of the meaning of what he is saying, doing or feeling or of the fantasies that may crowd in upon him. Since adolescents are expected and are continually reminded that mating is the central focus of adult life, they must find ways of accepting the masculine or feminine role and its essentially polarized activities and reciprocal responses, while refraining from any of the forbidden sexual activities.

The various attempts to find a way of living during adolescence while so preoccupied or distracted, and especially the improvised and often self-defeating patterns utilized, often fixates certain practices, modes of relationships and conduct, of feelings and of functioning that may not be effective for adult living and mating. Thus the adolescent often enters adulthood handicapped by persistence of infantile or childish patterns and also by these adolescent attempts to meet these irreconcilable conflicts. This adolescent self-defeat may continue throughout adult life and again become acute at involution, when the individual undergoes adolescence in reverse (both physiologically and psychologically).

It cannot be too strongly emphasized that the emergence of the personality in childhood and its further development and fixation in adolescence are oriented around the drama of childhood. That is to say, the [illegible] deprivations, frust[illegible] earlier, in the inte[illegible] relationships with other persons—chiefly parents. He derives from them whatever fulfillments he may enjoy in early life, whatever feelings of confidence in the world, of belongingness, of *love and affection*, and he accepts the necessary transformations with their often intense psychological cost at the hands of parents upon whom he is dependent for his care and for the love he needs.

Thus in the life space he establishes and in his private world these significant persons become the central figures whose roles

has for him alone. His individualized view of the world and its meanings constitutes his life space wherein he selectively perceives and selectively responds to whatever he has established in his life space.

The personality, operating as a dynamic circular process, may be viewed as the individualized way each person builds up, maintains and defends his life space. The maintenance of the individual's *"private world" is as necessary for his personality as the continuation of the geographical environment is necessary for his* organic existence.

By this prolonged and circuitous route we come to one answer to the question of what persists: the idiomatic way each personality selectively perceives the world, imputes meanings to it, responds to those meanings in his own patterns and feelings, and with unceasing vigilance maintains his everchanging life space so that his private world may be kept intact and inviolate (5).

This idiomatic dynamic configuration that is self-perpetuating and always changing arises early in childhood and continues with major alterations at the turning points of weaning, walking and talking, going to school, reaching puberty, undergoing adolescence, becoming an adult, marrying and having children, reaching involution, and entering senescence. There is an unbroken continuity throughout, but at puberty the maturation of the gonads introduces a new functional process which requires another difficult transformation of organic needs, involving the establishment of reciprocal relationships with another person. Since in our culture we do not sanction premarital adolescent sexual explorations, the adolescent at this time is expected to begin to transform his sexual functions into purposive, goal-seeking activities and to defer consummations.

It is to be noted that in the infant, some degree of functional autonomy and gratification of organic needs are permitted before the child is expected to transform these needs and functions into the prescribed patterns. No socially sanctioned consummations of sex functions are permitted and the adolescent must make the expected transformations and defer sex fulfillments with no initial sex experience (beyond masturbation, which has also been sternly forbidden).

It is evident that adolescents usually find this a severe task and in meeting it they may reinstate some of the earlier patterns

survived to old age and also the absence of any well-defined, socially recognized ways of making these inevitable changes gracefully, effectively, and with dignity. This operates especially in the aging woman who not only faces loss of status, prestige, etc., but after the menopause may become less female and less capable of being feminine.

It seems evident that with aging there is a lessening of the so-called "drives," the ambitious strivings, but there is need for more careful study of what this involves. Does this lessening arise from diminishing capacities, from reduction in the urgency of the organic needs that were earlier transformed into purposeful striving and in later years do not sustain such activities, or from loss of confidence in self as the image of the self is changed by alterations in status, power, recognition and rewards, the various responses individuals have evoked over the years as validation of self?

If we attempt to study the foregoing problem in more specific terms, we should replace such concepts as *drives*, *libido*, and unconscious and other abstractions with more precise and indentifiable psychological functions and organic processes and we should trace their transformed operations, as they appear in the aging.

As the aging personality endeavors to maintain his customary life space he is progressively handicapped or frustrated by the death or removal of those who have been significant persons in his life space and by the growing difficulty in a rapidly changing environment of continuing to impute the meanings and values that he lives by and for in his private world.

Likewise the individual's image of the self, which he has maintained often by unceasing efforts, especially in the occupational areas, may now become impossible to maintain when retirement occurs, and may even become shattered by the abrupt loss of customary channels of activity and of privilege and power.

The crucial question we face is: How many of these observable changes in personality can be attributed primarily to the aging of the organism (including, but to be distinguished from, the cumulative impairments of chronic illness); and, how many can be viewed as the expression of early formed patterns which at this period become inadequate and so are demoralizing, since the aging person can no longer rely upon his well-established and hitherto effective practices for maintaining and defending his pri-

invests every situation and relationship with equivalent meanings and tries to make other persons play the roles that he must allot to them in the continuing drama of his life space. Not only does he go on creating the same or equivalent problems but he meets them and tries to deal with them, or "solve" them, by relying upon the same or equivalent patterns he has been using before and with much the same feelings. As he grows older the inadequacy of these attempted solutions may become increasingly apparent even to himself and provoke more intense efforts to make them work despite their ineffectiveness or the increasing self-defeat he meets.

The foregoing is not offered as a statement of any inevitable outcome but rather to indicate what now happens very frequently in the absence of any help to the person in making the necessary transitions in later years and genuinely transforming his earlier patterns into more mature, productive ways of living.

If we are to develop a broad conceptional framework for study of intrapersonal aspects of aging, it would seem desirable, if not necessary, to study these later phases and terminal stages in the persistent but changing processes and activities outlined above.

What happens in the internal environment and especially to the functional processes and organic needs that have been operating in and through the various transformations exhibited as goal-seeking, purposive striving, deferred and symbolic fulfillments? How far does the postinvolutional decrease in homeostatic capacity disturb or render less possible the continuation of these long-established activities? Again we should remember that some of these alterations in the internal environment may be associated with a decreasing capacity to "equalize the threshold" as the aging individual's sensitivity is altered. Here we must recognize that the successive and sometimes considerable alterations in childhood, adolescence and early adulthood, involve transformations in what has been operative for only short periods of time and in a social-cultural setting that encourages, approves and rewards such changes as steps toward maturity. But there is little or no social-cultural approbation for the many alterations that involution and aging may necessitate, both by internal physiological changes, such as the decline of sexual functioning, and by social economic, political limitations, handicaps and new expectations.

We might here re-emphasize the lack of social-cultural sanctions and rewards for accepting aging, especially today when the aged no longer enjoy the prestige of former years when only a few

to be found in its fruitfulness in interpreting the growing material on these problems, and in focusing further studies upon these persisting but ever changing activities in and through which the personality emerges initially and continues to the end of life.

DISCUSSION

Hoskins: An old saying and a true one is that we see what is behind our eyes rather than what is before them. It is quite interesting to get this insight into what is behind Mr. Frank's eyes. Last week I had occasion to have dinner with a group of highly selected, very bright youngsters, first-year men in medical school, and with this meeting in mind I tried to draw them out a bit as to what is behind their eyes. I found that that particular group had been largely under the influence of chemists and physicists, and that they were quite content with an idea that all we shall ever require to understand this vast complex of problems is knowledge of the physical chemistry of the human. Actually, at present we seem to need a whole series of concepts and frames of references in which to work. In preparing this program each leader was asked to set up a preferred frame of reference in which the discussion might proceed. We may well find ourselves during the next two days utilizing a whole gamut of concepts from a rather naive physical-chemical pattern to one that is broadly serial.

The situation is now before you to thresh out. Dr. Carlson, I wonder if you would start the discussion.

Carlson. Well, I don't think you should call on me to start the discussion. I am a little confused by your language, Mr. Frank.

Fremont-Smith. As I see it, what Mr Frank is saying is that our present frame of reference is inadequate. Now if that is correct, and I am prepared to agree, then it seems to me that Dr. Carlson's remark is very encouraging. The only possible hope of moving toward a more adequate frame of reference is to go through a period of confusion This is especially true when we have overevaluated our *traditional* frame of reference. So, Dr. Carlson, I am very much encouraged, because I think we have to be perplexed if we are going to shake ourselves loose from the cultural fetters of our present scientific frame of reference. I would also assume that this is part of the growth of science to free our minds from the restrictions of accepted concepts in order to evalu-

vate world? Thus, the aging person is often compelled to face what he has successfully ignored, evaded, repressed or rationalized but now can no longer fail to acknowledge, or to control. He may frantically seek various substitutes for his customary activities and find it difficult or impossible to invest them with sufficient meaning and emotional significance to keep up his morale. The person withdraws or stops giving meaning to events and people and accordingly fails to provide what he needs to go on being interested and responsive.

These psychological difficulties frequently focus and engross much of the person's energies so that he cannot explore for the available alterations or undertake the transformations that might help him to go on maturing on this older age level of aspiration and achievement. Here we find a clue to the change in level of aspiration that produces apathy and increasingly pessimistic reactions.

From numerous studies made during the depression it was shown that many older persons (not aged) were often refused employment, rebuffed by groups, and otherwise excluded, chiefly because of their "prickly," destructive patterns of human relations. Such an individual was rejected by others because he treated others in ways that alienated or offended them. Much of this hostile, destructive speech and conduct appears to be a continuation of lifelong patterns which are intensified with advancing years. Probably no problem is more pressing today than that of these unhappy, self-defeating and socially unacceptable personalities for whom some form of group therapy may prove helpful and feasible economically and administratively.

In group therapy the individual members are permitted and encouraged to verbalize to the group their beliefs and feelings, speaking aloud what they are saying to themselves and thus interrupting their internal dialogue and evoking the comments and responses of others. Through group therapy and counseling the often untapped and unsuspected potentialities of individuals may be released for the difficult but essential tasks of reorienting the life space for the later years of life.

Many more suggestions for study of the personality process and its operation in later life can be made. This presentation is offered in the hope of providing a conceptual framework of intrapersonal life in terms of what seems to be a more dynamic approach to the organism-personality. The value of this approach, if any, is

capable of restructuralizing his life space so that at each phase of his development he can live adequately and effectively, and find the fulfillments which are appropriate to the altered capacities and the increasing limitations of his growing, aging organism. Thus maturation of personality is the way in which the organism relates itself to its environment with different degrees of adequacy. Lacking this capacity the person may exhibit withdrawal and many affects as he changes his level of aspiration. If we can state more clearly what it is that persists; what it is that changes; how those changes are taking place in the intrapersonal; then when we talk this afternoon about the interpersonal we will have a clearer idea of what is going on inside of the individual.

Cowdry: May I say a word about what persists? I have always wondered what the fundamental things are that we keep with us through life. Does everything change? Is there an uptake and an outgo of all chemical substances in the body? It seems to me that for the sake of discussion one can assume that there is continuity of pattern.

Frank: Configuration, exactly!

Cowdry: Put it a little differently. We can classify cells into those that are not formed after two years of age, which persist and are incapable of division and renewal. These are the fixed "post-mitotics" Their life is after a mitotic division—they age and die. We find them as nerve cells in the nervous system, as muscle cells in the heart and in some other places, too. Many other cells do not age and die but simply split and produce still other cells by mitosis. Their lives are from one mitosis to the [illegible] we call them [illegible]

[illegible] persist. Dental enamel, for example, is never renewed. It may be changed in quality with age because of pigmentation but it is never renewed. It seems to me that the genetic influence throughout the body is not changed; it merely unfolds to some extent Qualities unobserved in early life can appear in later life—whether we like them or not, they are part of the pattern. Now I would like to have more information as to what persists throughout life. I have a feeling that one of the things that persists a long time is the fibrin of elastic tissue. I think new elastic tissue is formed throughout life but I don't think there is an adequate mechanism for the removal of the old elastic tissue, so that we are cluttered up by it.

ate new ones. So, Mr. Frank, please go on from there.

MacNider: What is a frame of reference? You are talking in a language I don't understand very well.

Fremont-Smith: I would go back again to use the words that Mr. Frank used, that a frame of reference consists of the basic assumptions which we bring to any problem. Whenever we are in a dilemma, we should reëxamine the basic assumptions on which we have been operating.

If we are going to understand an aging organism, it presupposes that we have some reasonable understanding of the young organism, and I think that what Mr. Frank is saying, is that we don't know enough about the early life history of the organism. Our frame of reference is inadequate in order to really come to grips with the problem of aging. He also said something else, which I thought was quite fascinating, that maybe in the aging organism we will begin to see the crystallizing out of certain things which really started much earlier but which could not be seen earlier because of the confusion of the interacting dynamic forces. Therefore, we may be able to learn something about infancy and childhood by studying the aging person.

Now, Mr. Chairman, I have completed the circle and return to the *aging field*.

Frank: In aging the various physiological processes are still operating, but they operate with a difference. Years ago, Ancel Weinbach, who was studying infants, suggested that the infant, while physiologically quite active, does not have dynamic equilibrium; he has a static equilibrium (7). After disturbance he only gradually drifts back to normal for he has not yet developed the internal regulatory capacity, which we call homeostasis, to check these fluctuations and regain equilibrium quickly. Are the aged returning to a static equilibrium, losing their capacity for a dynamic equilibrium? Is there in the aged an inability to maintain the same organic functions that have been expressed as ambitions, drives, interests? The alterations internally then make changes in the meaning of the world outside, since the life space of the aged will reflect these internal alterations as will his actions in that life space.

It is this capacity of the individual to go on successively transforming and retransforming his purposive striving which we might call the capacity for maturation. The maturing person is

eliminate in the naive, spontaneous way. This is not merely adjustment as if there were something outside to which the individual adjusts, such as the weather. The human personality does not merely adjust; he tries to transform the world to meet his hopes and fears. When he cannot do this, he becomes angry, fights or withdraws. Sartre (8), the existentialist philosopher, has suggested that an emotional reaction is an endeavor on the part of the individual, who cannot change the world, actually to change it ideationally in terms of his inner feelings.

Fremont-Smith: Would it help at all if one tried to make a list of those structures and patterns which clearly persist? For instance, there are certain cells in the nervous system which do persist and many other cells which don't persist as such because they have gone through mitosis. Then would it also be worth while to take a contrasting view and make a list of those elements which are clearly lost? There, we might be able to compare the contrasting groups; those patterns which persist and are clearly identifiable throughout life, and those which are lost and are never to be found again. I think that would be a rather interesting contrast.

Frank: We find that certain impulses or needs have gone "underground" and come out later in transformed, disguised activities just as the growth impulse in the skin; in later years there are various efflorescences and growths in the skin long after growth apparently has ceased otherwise.

Engle. I should like to ask Dr. Cowdry to extend his remarks because he has much more information than he gave us. With reference to the nerve cells which mature and so are reactive at two years of age, those same nerve cells are in the cord, ganglia, and brain at seventy years of age but I would raise a serious question as to whether they are the same cells. For instance, is that myelin which develops at the time the child is learning the coordination behavior pattern the same myelin at seventy years of age? Are the internal cellular patterns for metabolism at seventy the same as those at two? Are those cells as reactive? [illegible] espond in the same [illegible] in the same way [illegible]

Co[illegible] agree with Dr. Engle. I was thinking of the organization in space, or pattern, remaining somewhat the same though cells and other constituents come and go. Within the pattern there is profound change, change of so many things that

Let us try, if we can, to classify the equipment, the patterns that we must have throughout life and the adjustment in such equipment and patterns that we must make in order to continue to adjust to the environment as long as we live. I think that is the path that we have to pursue.

Frank: What persists is the pattern which continues through and with successive transformations.

Cowdry: Why not use the term "adjustment"?

Stieglitz: Would not the term "modify" be better? Transformation would imply a change throughout. It is not necessarily as completely changed as implied by transformation.

Frank: Let us see what happens. You have a functional process called elimination: the infant spontaneously eliminates from the bladder or rectum when those get full and the sphincter is released. As the individual grows older he learns to inhibit these spontaneous actions and develops specific patterns of elimination which we call toilet training.

Carlson: I know, but they go on eliminating.

Frank: What I want to point out is that elimination now becomes involved —

Carlson: Don't use the term "elimination" for that persists throughout. Use "periodicity of elimination."

Frank: The process of elimination goes on, just as eating goes on. Like eating, elimination gets involved in a series of purposeful activities concerned with cleanliness, modesty, and if we follow some of the clinical interpretations, it may go on into all kinds of character formation as eating does. Eating is not merely a response to hunger; the child wants food of a certain kind, served a certain way. He will later work for it, strive and wait for it. We are good as children so we will get dessert. Each of these biological functional processes is channeled into a series of goal-seeking, purposive activities where the individual puts meanings into life that bring deferred fulfillments or consummations at various times. The organic process goes on and the individualized pattern persists, but it is transformed into something different and it is no longer spontaneous elimination or gobbling of food. That is what makes it so important for us to try to understand these transformations. We have to go on eliminating but we don't

Cameron: Mr. Chairman, I would like to start off by congratulating Mr. Frank, particularly on his perception of the fact that some of the clinicians were getting a bit blocked off and stuck in their own thinking, perhaps an indication of empathy and perhaps due to the capacity of getting inside one's skin, which bears out what he says. The word "empathy" is in your stock of language.

I think that one of the difficulties we have been having so far is due to the fact that at the beginning we did not obtain a statement on the kinds of philosophy of science or basic premises used by those of us who work at various levels of functioning of the organism. I think it would be fallacious to feel that we are now moving away, shall we say, from a nineteenth century philosophy of physical science to one which is more relativistic, which is more useful in dealing with the highly adaptive levels of the organism with which the psychologists, psychiatrists, and sociologists deal. I fear that the problem is more complex than that and that *philosophies* of science will be necessary to provide the bases on which to study various levels of the functioning of the organism—and there is no universal philosophy. We are not simply emerging from one thing to another. I feel that that is perhaps worth emphasis, because with that emphasis one then can understand why some of the problems which have interested some of the members of this Conference Group have also aroused blank looks in others. For example, I cannot feel terribly enthusiastic about the problem of identity. It seems to me almost as meaningless as the ancient discussions on how many angels can occupy the point of a pin. We don't deal with identities to any great extent. We deal in a practical loose kind of way with the recognition that this goes on and that goes on, and so forth Because nowadays the social scientist is primarily concerned with individual differences rather than mass regularities, identities are not quite so important. One reason perhaps why identities have influenced some of our thinking is that there is a great basic premise affecting not the scientist but the human being in Western culture—namely, the continuing need for personal identity to fit in with our ideas of personal responsibility, punishment. So I would suggest that we make some statement later in the day, to the effect that most of us are not dealing with different languages of science but different philosophies of science, that those differences are necessary to deal with the phenomena of function of the organism The more highly adaptive the level at which we are working, the more we have to

we cannot enumerate all of them. Pigment, of course, appears later on. The metabolism changes and the irritability changes, but in general the position of that cell, the connections of that cell, the fiber tracts involved in the nervous system, remain about the same.

Engle: Except probably fewer of the connections.

Cowdry: There is a loss, just as there is a loss in number of cells.

Engle: The same thing is true in heart muscle, which you mentioned. The cardiac muscle fibers are the same fibers that were there at birth but they have undergone vast changes and there is a steady increase in the number of intercalated discs. We don't know what they are for but they are definitely involved with advanced age. I think the fundamental biological problem in this whole aging situation is the amount of collagen which occurs even in heart muscle fiber.

Frank: We have several psychiatrists here whose profession it is to deal with the problem of personality. I would feel happier if we could hear from them, as well as some of the others who have been working with psychiatrists.

Hoskins: A sociologist has indicated a desire for the floor. Dr. Havighurst, we should like to hear from you.

Havighurst: One of the main problems for research seems to me to be related to what Dr. Cowdry and Dr. Engle were talking about. What are some of the concepts that Mr. Frank has used in his discussion, for example; "inhibition," "ideas and beliefs," "conduct," and "emotion." Are these changes in one's emotions and inhibitions and in one's ideas and beliefs, etc., which take place in old age, due simply to the changes in the cells or are they due partly to significant persons, to someone outside the individual who impinges on the individual? Mr. Frank offered the proposition that these changes are not due simply to biological deterioration or biological change but they are also due to the way the person is treated by the significant persons in his life. I should think that the problem for research here would be to take people who, as far as we know, have similar biological changes going on inside with somewhat different relations with the outside world, and find out whether their beliefs and their inhibitions and their emotions change in the same way or change differently corresponding to the differences in experiences with the outside world.

I work with patients and I find that I do have certain spots of *terra firma* to which I can attach my clinical work. In the first place, I have not heard anything said about *constitution* which is probably not a particularly acceptable or welcome concept to some psychiatrists, but there is such a thing as constitution. Even if we accept the definition that constitution is an aggregate of hereditary characteristics which may be modified by environment, there is still something constant in it. You see what I am thinking of is this—fortunately I am working with old people who are very sick and are definitely different from what we call normal old people—I have to ask myself the question: What is it that makes this person sick? Why is he, out of a large number of others, sick and why has he failed to adjust himself at a certain age? It is easier to see certain constant factors there than it is when you study normal old people When I do that I find, as I will say tomorrow, that in the first place we have people who seem to have a certain aggregate of constitutional characteristics that make them particularly vulnerable to the new situation which arises in old age. I feel that this is an important concept which we can apply in a program of preventive medicine and perhaps later on also apply to normal people who may get themselves into minor difficulties.

Another thing which I find to be fairly reliable and useful is the occurrence of traumatic incidents. This has been mentioned already in the reference to destruction of tissues in old people which make them less capable of adjusting to certain situations, than those in whom the tissues are not disturbed. We know that certain types of changes do occur in the brain and in the rest of the nervous system of all old people. We know, furthermore, that certain changes take place in the endocrine system and these changes can be used as definite reliable data to try and determine why it is that the old person does not adjust himself to certain conditions to which the younger one can adjust himself.

Then I find there are certain cultural factors Social groups differ in the attitudes they take toward age, just as they differ in all the other traditions and mores so that in certain cultures old people find it more difficult to adjust themselves than in others, and culture, even though it changes, nevertheless continues to have a certain constancy in it. Then we find that certain constants appear in dynamics of personality development. We know that frustrations, rejections, and anxieties, when they occur at a certain time in life, exert a definite influence upon people and in trying to understand why one old person fails to adjust himself to a cer-

get away from the absolute and basic truths and personal identification, particularly because the higher the functional level at which we work and the greater the range of causalities, the more open the system which we must have. So, the more deeply are we concerned with the matter of meaning.

Frank: I would like to have Dr. Cameron and some of the others who are doing some work with aging give us some clues to what we might focus upon in this later age period. What are some of the leads that we ought to discuss and try to clarify? I believe they have experience and clinical material on which they have reflected. Would you like to go on, Dr. Cameron?

Cameron: I would like to give way to my fellow clinicians.

Hoskins: Would Dr. Malamud care to contribute here?

Malamud: I have to appear here tomorrow morning and if I talk this morning I will have nothing left for tomorrow, so I think I had better not say too much.

Fremont-Smith: We will have plenty to say tomorrow, so don't worry.

Malamud: I found myself in a similar situation at the recent Psychosurgery Conference, where a great deal was said by the other participants casting some doubt as to the wisdom of my remarks. One of the men actually congratulated me on the strength of my ego, since it did not break under the attack.

I will say this: I agree with Dr. Cameron that Mr. Frank gave us a very stimulating, provocative, and certainly extremely broad presentation of one way of looking at the problem. I am reminded of one of Robert Browning's statements in "Ben Karshook's Wisdom" in which, when the student asks the teacher to tell him whether we have a soul, the teacher says, "Certain, a soul have I. We may have none."

I think what Mr. Frank was presenting to us was his own soul and his way of looking at things. When I try to apply this clinically I find myself a bit lost, not because of confusion, because I have done some personal soul searching myself and I find I agree with him, but I don't know whether "we" have a soul, and therefore I cannot presuppose that my patients have souls, too, and I have to find something a little narrower in its comprehensiveness than a soul.

of the individual and that his germ plasm continues to live apparently indefinitely give us any clue? We know that the various organs age at different rates and that the various functions in the physical and mental sphere decline at different speeds. In connection with these changes, our strivings and our needs also show the changes of aging at different rates of speed. This suggests the possibility of a teleological frame of reference related to the biological purposes or aims of life. It also suggests a frame of reference related to the primary biologic needs of an individual and his instinctual drives. It is true that there is a quantitative diminution, not only of certain cellular tissues, and not only of certain capacities, but also of our drives and needs as we grow older. This too should be included in a frame of reference.

Hoskins: Dr. Cameron, what do you make of the concept of conditioning as a working hypothesis?

Cameron: We use it relatively little. Perhaps we have not given quite enough weight to the general idea of maturation to explain why human behavior takes the form it does. I should like to mention here something which may seem to be a little contradictory, namely the words of Ruth Benedict when she said there does not yet exist anywhere a text of human psychology. All we have are modifications of basic human needs imposed by the culture in which the person grows up. I think that those are some of the things which have to be worked out here but I would be inclined to say that we must at this point try to get hold of some major problem in the aging field and apply the theoretical findings to it.

Here are one or two observations: We have set up at the Institute at McGill a laboratory for the study of the effects of the aging process on human beings. It is widely conceived, not as simply psychological but biochemical, etc., and among the subdivisions of this laboratory is an old age counseling service where old people with [illegible] arl Stern, who dirc[illegible] the very interesti[illegible] of the older people who came to the counseling service do not come primarily because of aging tissues, but come because of problems of a psychological nature (8). They are misfits *now*. *Their* families have died. Their daughters are married. They have been discharged from work at sixty-five.

Another general idea which might serve as a vehicle for our thinking is this: As people grow older they become progressively

tain situation in the environment as compared with ten others, we may be able to find that this person has gone through certain types of experience which made him vulnerable to those conditions. So we can establish types of traumatic experiences in terms of their meaning to individual security, particularly in old age, and these can serve as reliable factors in trying to understand what has happened to this person and what we can do in order to help him. As I work with patients, old or young, I try to keep in mind prevention as well as treatment. I have several factors that I can use there. Given a person with a certain type of constitutional background he will be more likely to be affected by these earlier experiences. He will be more vulnerable to certain catastrophic occurrences in his life and he will be more likely to be affected by the decrement, physiological or histological which occur with advancing age. Those are the facts that I depend on as I work with each person. Even though there is no particular philosophy there, I feel it is something solid that I can use with each person with whom I work.

Hoskins: To continue with the psychiatrists, let us hear from Dr. Frohlich.

Frohlich: I agree with what Dr. Malamud said and think that his remarks show how continuous a process aging and life adjustment is. When we deal with older patients, we find in them many remnants of their childhood experiences as well as of experiences of their later life. It becomes pretty obvious that a great many things of their past persist in them and that their life adjustment is a continuous process.

In regard to the frame of reference which Mr. Frank gave us, I am somewhat uncertain. As I understand it, he told us that there is a very complicated interrelationship between the individual who is growing older and his environment and that the individual interprets the environment and then reacts to his interpretation of it. This frame of reference seems to me to be difficult to work with. Why does the individual interpret his environment in his particular manner? What things in him have made him choose that particular interpretation of people and things around him? It seems to me that there must be something more fundamental than the complexity of things which could be used more profitably as a frame of reference.

Can the observations that the placenta is very aged at birth

If you look at a disease process such as Graves' disease you find the same kind of metabolic disturbances in the young adolescent as in the older age group. Yet it presents an extraordinarily different picture in a person of sixty, in which group fall those cases of so-called latent or masked Graves' disease, which because of the mildness of the manifestations are often undiagnosed. It is as if a string or wire were lax enough at one period to vibrate over a wide arc, as in adolescence, whereas at a later age period the extent of the excursion were sharply limited.

What do you think of the necessity to recast our problem in those terms, Mr. Frank?

Frank. I agree with you. We don't know what the life space of the older individual is. It may be that the life space enlarges in one way or another because the individual may develop more awareness, a larger concern and more empathy, and may be able to project himself and his ideas out to the world, way beyond anything he has been able to do in his early period of close interpersonal relationship. That may be one of the problems we should explore. How can we explore and define the life space, if I may use that term, in which the individuals really live?

I think John Dewey's life space has perhaps been enlarged rather than reduced since he reached the age of sixty-five. It seems to be possible for some individuals to have a life space that is not fixed I am glad you raised that point for it is an important problem. What are the methods for exploring it?

Shorr· I have often thought about the development of the individual investigator and have observed a characteristic pattern always affecting the fellow naturally Explanatory of what happens to productivity with age, I note for example, the resistance to new methods, methods with which one is not familiar, the resentment or the insecurity that [illegible]

[illegible] other workers [illegible] attempting to get at for years, and that still other workers will attempt for years to come. Then there is the unwillingness, let us say, to explore new fields, because the fields you have already explored, and the techniques you have always used, you are pretty sure about; you won't make mistakes. The risk that comes with a new venture as one *grows old* is very inhibitory.

Are those the important factors that cause this shrinkage of

Frank: I don't insist upon the term "unlearning" but want to emphasize that learning usually means acquiring, adding, enlarging knowledge and skills as in studies of intellectual capacities of older people.

Carlson: I think it would be worth while to investigate to what extent a greater understanding comes with age. It influences the diminution in the emotional reactions to certain conditions.

Hoskins: Rephrasing that, with greater wisdom fewer and fewer things seem worth fighting about.

Carlson: That would be one phase of it. I think that is a factor in some people. I am sure of it. How general it is I don't know. We have an illustration of it in animals below man or even in the infant. They get frightened, terribly emotional from a new strange set of factors. The child jerks back from a cat or dog the first time it sees it. Then it learns gradually that it is a kind animal and there are no emotions any more. To illustrate for mankind as a whole, as a child I believed that all who weren't Lutheran would go to hell. I felt pity for the Catholics and the Jews. I think that with greater understanding emotion is impossible in me. That is an illustration of what we mean. Undoubtedly with greater understanding emotion will be minimized.

Hoskins: Dr. Shorr has a free association that he would like to share with us.

Shorr: I am wondering whether those of us who are planning gerontological studies should not be concerned primarily with the factors that influence the progressive decrease in the extent of the environment and interpersonal relationships that apparently occur in old age. Could we ask this question? The very fact that there is a small portion of the environment with which the young child gradually comes into a personal relationship also means that there is a large area with which we do not. Hence, we must ask what limits the extent of the excursion in the child as compared to what limits the excursion in the involutional period. Is it the same process? We know that it is traditional to speak about the childishness of older people and that this concept has dominated much of our thinking. It may very well be that although childhood and senescence both represent periods of diminished environmental and interpersonal relationships, we have to apply an entirely different set of principles to the later decrescence than to the initial augmentation.

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our horizon as we grow older, or are there real physiological inhibitions which limit the amplitude of the excursion of one's own particular wave on any of those levels about which you are talking?

Frank: I think those are very relevant questions.

Hoskins: Dr. Stieglitz, what phases of the psychology of senescence, of senility, bother you most as a clinician?

Stieglitz: There are a few of the fundamental concepts, Dr. Hoskins, that Mr. Frank emphasized this morning that perhaps you are restating in different semantics. Restatement might either confuse still further, or clarify. One thing he amply demonstrated is that the whole is greater than the sum of its parts, because the parts react with one another to create other forces. To me this is the essence of this morning's discussion.

I would also remind us that the chemists were first to use the arrow pointing in both directions to indicate an equilibrium. Such a symbol would be applicable diagrammatically here to what Mr. Frank has been trying to explain, but inadequate vocally, because, there are no words, as he said, strictly applicable.

One other difficulty in trying to diagram Mr. Frank's ideas is that he was forced to oversimplify. The internal characteristics, activities and functions are apparently parallel lines, which do not cross each other. This is, of course, not true because these activities do react with one another within the organism, as well as reacting with the outside. They interweave to make an extraordinarily complex fabric rather than a series of parallel lines.

To extend what Dr. Malamud said in connection with culture, I think Alan Gregg pointed out something some years ago which is significant. Gregg had observed that the place of the older individual in society, the respect or esteem with which he is held, varies directly with the age of culture in which that older individual lives. The older the culture on the whole, the greater the esteem for the individual. This is an important element in cultural background.

In connection with this discussion of learning and unlearning, has not the word we have been groping for been the question of modification of habit, in the sense of unlearning; the extraordinary role the mental and physical habits play in the lives of the individual? I think it would be extremely profitable if the Macy Foundation created another conference group to be concerned with

the role of habit in health and disease. Habit in both the somatic and the psychic sense (both intellectual and emotional) is an extraordinarily powerful factor. May I ask if that isn't essentially what you had in mind with the concept of unlearning—the modification of habit?

Frank: I don't like the word "habit" any longer. I have become rather suspicious of it but I don't object to anyone else using it.

Stieglitz: The question of depreciated adaptation in later years, the question of second childhood, which Dr. Shorr brought up, is extremely important. It is my personal conviction that there is no such thing as a second childhood, that those who behave in a conspicuously childish manner in senescence and senility were always childish but merely concealed their emotional and intellectual immaturity in the interim by being conventional. They hid under a cloak of conventionality, rigidly following the pattern of the herd. The herd drive is very powerful. If one studies the past histories of the childishly senile, they were all ultraconventional. When the necessity of conformation no longer exists, their innate immaturity becomes more conspicuous again, but it never had been lost.

In connection with the importance of traumatic experiences it must be emphasized that, of course, no two people can live identical lives. If we are going to try to study what happens in this whole complex relationship with "normal" persons, we are going to find so many variables that the picture will only become more confused. No two people experience the same vicissitudes of existence, psychological and physiological traumata or, if they should coincidentally experience the same illnesses or traumata they certainly do not occur in the same sequence or with the same intensity. Consequently, from the clinician's point of view, an infinite variability further complicates the whole picture. However, there are certain patterns which repeat themselves.

There is one other aspect of this problem which I think is distinctly revealed in older people, and that is that all experiences, by which I mean both somatic and psychological [illegible] potentially [illegible]
tially [illegible]
detrim[illegible] [illegible] both potentialities exist in each experience. To take the illustration that Dr. Carlson spoke of, the fear of a strange animal in the child has been used elsewhere to

imply that fear is wholly detrimental. This is not true. Fear is an extremely useful thing. It is a necessity, a desirable thing. How in the world is anyone going to learn courage without experiencing fear? Certainly courage is not absence of fear. That is just being so infernally dumb that there is no realization that there are any hazards involved. The profitable reactions from fear may or may not, in various instances, outweigh the detrimental. Repetition over a *period of time of fearful* experiences will have very different consequences in different individuals.

One more thought in connection with the discussion thus far: It should be apparent that the problem of defining aging relates to the definition of what is health. Not only what is aging but what *is health, because health is never absolute, never perfect. It varies* considerably because it is asymmetric. It varies with age. Health might be defined as the ability to respond to stress, and the ability of a given individual to respond to stress will vary in his different functional capacities. He may respond excellently to certain types of stress and be very inadequate to other types of stress.

There is being started now a rather interesting study which bears upon this at Teachers College at Columbia. Recently they had a conference with regard to planning a research program. Instead of trying to study older individuals who had failed in their adaptation to their changing environment and had been inadequate in their own capacity to work and/or in their finding opportunities to work, which are very difficult to distinguish sometimes, the research program will be directed toward studying the methods of adaptation employed by those people who in their own opinion had aged successfully, *not* the failures. The reason for basing the criterion of success on the opinion of the individuals themselves, despite the error introduced by those with delusions of grandeur with regard to their own success, is that our criteria of successful adaptation are not adequate because our standards of what constitutes successful living are not necessarily appropriate to older persons. Probably there will be less error if we use as a base line the individual's own concept of whether he is successful in adaptation in his later years of life, rather than in imposing the ideas of success of a much younger age group. In other words, there are undoubtedly certain people to whom an armchair existence, sitting on the front porch and watching the world go by, constitutes success. Such existence would not appeal to any of us here. We would say *such retirement constitutes failure*, but to others it

might be successful. We should certainly not impose our criteria of success upon everyone.

Our greatest clinical problems, I think, arise from the erroneous cultural assumption that though the child should be encouraged to prepare to become an adult, the adult is not encouraged, not stimulated, not given any foresight in preparation for his own senescence. There is not enough anticipatory adult education. I think both from the individual and the sociological viewpoints that the lack of anticipation is the most urgent and significant pragmatic [illegible] problem of aging. We [illegible] the child at least to b[illegible]nticipate when he becomes an adult, but the number of individuals who anticipate their own senescence is pathetically small.

Aub: I have just been puzzling all through this meeting about what my reaction would have been to this meeting ten years ago. I wonder if one could interpret growing older by trying to figure out what you would have thought before. I think my reaction to almost everything you said today would have been the same ten years ago as now. I believe if you discussed your reactions to me they would have been the same As one grows old the reactions of the other people around you change. I doubt very much whether my reactions have changed. They have become rather more complicated and just as Dr. Shorr said, medical problems become much more complicated as one grows older; they are never as clearcut and sharp as they are in childhood. I suspect that one's psychological reactions are the same; therefore, one reacts less forcibly.

Frank: There is an image of the self that the child develops, as he learns to deal with himself as a person, just as he learns to deal with the rest of the world of people as defined by others.

One of the important questions is what happens to the image of the self as he grows older because that provides the central core around which are polarized or oriented the life space. He has to develop a new image of himself when he reaches puberty with a new role to play, again when he marries, and so on. There are a few dependable methodologies such as interviews, questionnaires and some of the projective techniques which could be used to get at the image of the self, to which Dr. Aub has alluded, which runs all through life and which is successively transformed from one period to another.

Hoskins: There is another facet of that, the family constellations, the position, the role for which one is cast in his own family. There was a psychiatrist in Boston a decade or two ago who made a great deal of that. When a patient was brought to him, he studied not only the individual but the whole family constellation. He often found that the cause of a great deal of unhappiness, of maladjustment, was the miscasting of the individual in his own family. The father, for example, who wanted to be a regular fellow and go to baseball games, was rigidly held by his family to a sort of Jehovah status. After the job of recasting had been done, Dad could go to the baseball game occasionally without perturbing the family. That type of adjustment often helped greatly to straighten out the difficulty of the individual patient.

Aub: I am very interested in the relationship of students to teachers. As one grows older the students certainly have a very different point of view toward you as a teacher even though you have very little change in your reaction toward students. The sociologists that I have listened to at these meetings in the last few years are having great difficulty finding material to study. They find it difficult to find a group that they consider sufficiently homogeneous to justify research on. It seems to me that the relationship of students to teachers as they grow older offers a good opportunity for that research.

Stieglitz: But in this situation there are two variables. The teacher grows older and the student grows older.

Aub: But the student population remains essentially the same age.

Carlson: In regard to the point you raised, as far as my experience goes, I have tried to teach for fifty years, fifty generations of students. My attitude toward freshmen medics or college freshmen today, so far as I can judge, is the same as it was fifty years ago.

Aub: That is what I think but the student's point of view toward you is changed, sir.

Carlson: That may be, but my attitude toward them has not changed so far as I can judge.

Aub: I think that is right.

Frank: One point from the research viewpoint that Dr. Shorr

brought out is rather important: We have been greatly concerned about individual variations, deviation of individuals from a mode on a curve, normal values, central tendencies, and so forth. In this problem of aging the point he made about these excursions interests me and has for a long time. What are the patterns of individual variability from hour to hour, day to day, week to week, month to month, and how does the individual's variability alter in his life cycle? That might give us some clues to his capacity for readjustment, habit changing, and for understanding. That is one way we can get some light upon what we call rigid personality, not only in terms of how it shows up in the Rorschach but perhaps in terms of rigid organism-personality and to see whether there is something about the range of excursion or variability in these physiological processes and sensitivities which will enable us almost to predict what an individual is going to do. I don't think we have paid enough attention to what might be called the individual pattern of variability. Dr. Hoskins gave us that very interesting conception of physiological "clumsiness." We have not followed that up as one aspect of aging. We have to face two problems. We want to know the generalized process, what happens in aging as indicated by the statistical findings that reveal regularities, the kind of thing that can be done by many of the already established techniques and methods. We also want better to understand the individual and his pattern of growing old and what it means to him, for which we must use some of these other methodologies and pay more attention to this concept of variability within the individual.

Donahue: It seems somewhat surprising that the physiological changes which accompany senescence are not more clearly reflected in personality changes In our studies of normal old people, that is, of old people who are not showing a [illegible] pathology [illegible]
of the [illegible]
vidual [illegible] persist often in the face of rather obvious and profound physiological changes. One of the characteristics of the normal old person is his struggle to maintain his established self-image under conditions of increasing environmental ambiguity and changed physical and physiological capacities. The effects of the changed physiological status seem of less importance than the attitudes of others toward him as an old person and the decrease in opportunities to fulfill his needs. The inability of the individual to find a solution seems to go back to the point which

Dr. Stieglitz brought up, that is, we have not in any way prepared the individual for this new ambiguous situation in which he is going to find himself. Educational systems have, up to the present time at least, failed to prepare the individual for living in the senescent years. To borrow an analogy, no white line has been drawn on the up gradient of the hill of youth and early maturity to warn of the problems which lie on the down gradient of the life cycle. I wonder whether, if we were able to prepare people for this latter half of life, the curves for aging would remain the same as now. If we could train a group of aging people and then follow them through their older years.we might find the shape of the curves for many of the functions to be quite different. I think we should therefore exercise caution in accepting what is now discussed as the typical curve of aging.

Hisaw: I don't want to complicate things more than they are now but there is a term that is well understood among biologists, i.e., genetic differences. I have not heard this mentioned in our discussion. We have talked about variation between individuals but no one has said much about genetics. Did you use the term "genetics"?

Frank: I did when I spoke of the mammalian organism.

Hisaw: Another point. On your assembly line of life you feed in everything from idiots to geniuses. This influences a great deal what you are going to get out in old age. I think probably it would have been more illustrative of things you have mentioned if you had emphasized things that we learn, and our genetic ability to learn, perform and adjust. Genetics, of course, is not the whole thing but it is very important and should be kept in mind. The family physician consciously or unconsciously knows more of the genetics of a family than any one else. He knows whether the mother is a neurotic. He knows whether the daughter is a neurotic. He knows whether the old grandmother was. He knows a great deal about the family. I believe the genetic side of this question is extremely important.

Frank: I agree with you. In the interests of economy I said we should start with a mammalian organism with the implication that that organism comes not only with the basic mammalian inheritance but with the variations, the differences which are genetic. I should have explained that I agree. We submit that all of the early pattern is going to be a function of what kind of an organism it is and that is where we encounter difficulties when we try to impose a fixed pattern on some of the organisms.

Hoskins: There is further difficulty, the difference between organic heredity and social heredity.

Stieglitz: May I ask Mrs. Donahue if she implied in her remarks that adequate adjustment in senescence requires the ability to modify the self-image?

Donahue: Yes.

Stieglitz: The difficulty arises when the self-image is not modified?

Donahue: That is right. If the self-image is modified and if one can accept the necessary compromises which society is largely responsible for pushing upon us, then I think one can have an adequate adjustment.

Carlson: May I make one comment there? I think you have a very important point that we have not begun to touch in the United States. Maybe they are doing something in Denmark where they have had continuous adult education for fifty or seventy years. This education for adjustment in the older years can begin but not end in the grade school, in the high school, and not even in the college. That could be one phase of the much needed continuous adult education. That would be one extremely important thing.

Donahue: If I may add another point. In order to provide education for adjustment in the later years, it is necessary to find ways of prolonging the interest of adults in learning. The really old person under the pressure of adverse circumstances is often willing to turn back and try to find out what he may do to remedy his situation There is much less readiness on the part of the "younger" old person to ask what further he needs to know to achieve lifelong adjustment. If we could identify people at the time when they are first confronted with the disquieting knowledge that time and personal resource are running out—at the time when age begins to be a significant variable in the adjustment process—and if we could offer them worth-while information and guidance, perhaps education for later maturity would be welcome and effective.

Shorr: May I ask Mrs. Donahue just what part of the self-image must be modified. Is it the basic part or the clothing, the way the hair is done, the way the tie is worn?

Donahue: Perhaps I can't answer your question. The way the

Dr. Stieglitz brought up, that is, we have not in any way prepared the individual for this new ambiguous situation in which he is going to find himself. Educational systems have, up to the present time at least, failed to prepare the individual for living in the senescent years. To borrow an analogy, no white line has been drawn on the up gradient of the hill of youth and early maturity to warn of the problems which lie on the down gradient of the life cycle. I wonder whether, if we were able to prepare people for this latter half of life, the curves for aging would remain the same as now. If we could train a group of aging people and then follow them through their older years, we might find the shape of the curves for many of the functions to be quite different. I think we should therefore exercise caution in accepting what is now discussed as the typical curve of aging.

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I have some biases regarding aging research which I would like to express in relation to the problem of studying changes in self-concept.

In the first place, in order properly to evaluate changing attitudes toward self, or changing self-concept, we need a lot of related information. It would be desirable to know, for example, whether the person who *thinks* he is declining is *actually* declining. We need to know something about the role he *actually* has in society as well as what he *thinks* he has. A major weakness of the gerontological research done to date lies in the fact that data of varied kinds have not been collected on the *same* individuals so as to permit the study of interrelationships. Mainly, investigators have studied a single aspect of physiological change, or change in learning ability, or change in interest patterns. Unfortunately, the facts are not yet available which will permit us to study the relationships among these various trends, and their relationships to changing concepts of self. It is to be hoped that laboratories emphasizing cross-disciplinary approaches to gerontological problems will not be content to conduct separate studies in various fields, but will study the same individuals from various viewpoints so that various types of data can be examined with reference to one another.

In the second place, I think it is perfectly clear that present research methodologies are so inadequate that we will have to use many *different* approaches simultaneously in our efforts to assess self-regarding attitudes. The Rorschach has been mentioned, and it has a certain appeal for many investigators. Actually, we know very little about what it means at any age level, and data are not available which will reveal whether it has the same diagnostic or descriptive meaning at the old age level that it has at [illegible] adult levels. [illegible]
alone, but sh[illegible]
interview pr[illegible] [illegible] observational procedure. Attention should also be paid to the circumstances under which the data are collected. We have not often used stress situations in psychological studies of aging, but there is evidence that age trends may appear under stress that would not appear in unstressful circumstances, and this is likely true for self-regarding attitudes.

In much of the discussion this morning there has been recognition that many of the aging trends begin early in life. Implicit too in this discussion has been the assumption that we know what

hair is done, the tie, the kind of clothing selected, all reflect the self-concept of the individual and from that point of view are just as basic as the aspirational levels, the emotional needs, or the ego satisfactions which the individual experiences. The latter are also reflections of the self-concepts which the individual has built up over the years.

Stieglitz: It has to do with the purpose of existence.

Donahue: That is a very good way to put it. The self-image includes the individual's concept of his reason for living.

Fremont-Smith: I would like to add a word. It seems to me that one way of describing the false part of the self-image is to designate it as the part which needs to be modified. We certainly see many youngsters and many young adults who have infantile self-images or immature self-images or even images persistent of self as a child or persistent of self in a special constellation. Perhaps another aspect which is a false aspect is the "staticness." It may be that we have to make it possible for people to grow up with the concept of a changing self-image. We encourage children to grow into adulthood. We don't encourage adults to go any further, so this self-image is culturally imposed and we have to get at it by inculcating the concept of change from the beginning.

Kuhlen: I find myself in agreement with much of what has been said this morning, in particular with the emphasis upon the importance of the self-image or self-concept—though personally I prefer the term "self-regarding attitudes."

One aspect of this problem in special need of study relates to the reactions of an individual to the fact of his growing older, to his changing role in society, and to the loss of his capacities. It may well be that changing attitudes toward self are as important or even more important than actual changes in capacities. I have been impressed in this connection by a study by Keith Sward (10). He had older and younger college professors take intelligence tests. While they were taking these tests he sat in the room, listened to their comments, and wrote them down. A most significant finding of the study was the fact that the older professors (who incidentally did not score much lower than the younger ones) made about twice as many self-belittling comments. Certainly we have here evidence of a change in self-regarding attitudes, a change in self-confidence which may be fully as important in efficient functioning as the loss of ability implied in a lower test score.

preparation for our old age. We are learning, expanding our capacities, and acquiring things when we are young, and we try to hold on to things and to prevent our involution when we grow old. We try to avoid facing our aging. Similarly perhaps, we avoid facing the possibilities when we go into combat or other unpleasant or dangerous possibilities which may really be present. I don't think it is entirely a matter of teaching or training, but that it is also dependent on some inherent qualities in the processes of growing up and of involution. I believe that there is much we can do through teaching and preparation, but that there are definite limits for most of us as to what knowledge can do in overcoming our reluctance to prepare for old age. Clinically, we see that those people who have had a relatively rich early life adjust much better to their old age This may have something to do with their ability to learn and relearn things and the capacity to supersede by more mature ways of reaction the earlier and inappropriate younger ways. As we grow older, we learn to judge situations and to react to them according to immediate reality rather than on the basis of fixed patterns of reactions which we might have acquired or been taught before. How well we can do this may have much to do with how well we grow old. If we are relatively free of fixed or compulsive means of reaction and retain elasticity of response, we ought to be able to satisfy the needs of adjustment in older years

Cowdry: We have heard Dr. Stieglitz tell us what we need now is education for the latter half of life. Education for the first half of life is taken as a matter of course. We have heard Dr. Carlson tell us that we don't get education for the last half of life in the schools or universities. It seems to me that the primary question is how we can get it easiest. It is not just in these meetings that there is a great tendency to postpone facing this question of education; it is a major problem of the field of aging. You don't find this postponement quite as much in the problem of cancer where people have been educated to get diagnosis early. What we want to do is to get early action in regard to aging. I believe that this problem of education could in some way be linked with the whole question of pensions. The question of pensions is coming up on all sides. It comes up for many obvious reasons.

The insurance companies have a lot to do with this through annuities. The government is having a tremendous amount to do with it through Social Security. Could we perhaps induce the government and the insurance companies to initiate small but

the trends are between, say twenty and sixty, and that old age research may well focus on the years past sixty or sixty-five. As a matter of fact, for most psychological functions the years twenty to sixty have been even less explored than the later years. The point I wish to make is that it is very unwise to limit gerontological research to the older years. Old age cannot be understood out of its developmental context. It is not unlikely, for example, that the psychological impact of the downward trends so apparent in old age is greatest at the time when the decline begins or when it is first noticed. Hamilton relates in his chapter in the book edited by Dr. Cowdry (11) that most of the males who come to see him regarding loss of sexual capacity are in their thirties—at the age when decline in sexual capacity begins. Another example: The forty-year-old may well feel concerned because of nearing the end of his prime, without perhaps having made the professional strides that he had hoped. Clearly, revisions in self-regarding attitudes may be called for—revisions that are a function of the aging process. But research aimed at the years beyond sixty will shed no light whatever on these adjustments, which are not only important in their own right but may have great significance for the nature and level of adjustment in old age. We need to do more than simply acknowledge that aging begins early; we need actually to design and conduct our research on aging to include a broad age span. I would suggest that most studies might well seek to establish aging trends from age twenty upward.

Frohlich: I have been very much interested in the subject of the self-image. We not infrequently see someone getting old very suddenly, at least as far as his behavior is concerned. Something seems to change his self-percept. We see it in young people, even in adolescence at times. Their new behavior appears to be patterned on that of a parent or some other perhaps culturally determined older person. Their attempt to conform to their concept of this older person makes them act old. I think it is important that one have a proper self-image. Proper by what standards? We can judge this only by whether it fits the reality of the situation and whether it fits the particular cultural environment as well as the functional capacity of the individual concerned.

It is probably not an accident that we don't prepare for old age whereas we expend much energy in preparation for maturity. It is not only what we are taught by our parents that determines this difference but also something inherent in us which makes us learn and mature in childhood and which prevents us from similar

learning. It is here that there is often great resistance in middle age. This is, of course, an essential part of teaching.

Kidd: It seems to me that the image that the community has of the old person, as well as the image that the old person has of himself, is important. To what extent, for example, are there stereotypes in employment that throw a fellow out of work regardless of his psychological or physiological aptitudes to continue work? It appears to me in that connection that the question of education is not just education of the older people but of education of unions with respect to apprenticeship requirements as they affect the aging of the labor force. It also means the education of employers as to what employability is, what the specific productivity of older workers is, and what the productive capacities of the aging are and are not. So the question of education ought to be approached on a very broad scale. If work, for example, in our culture as it is now, gives personal satisfactions for which there are no substitutes, then I feel that the education of all groups which will permit people to work must be an integral part of the total process of education.

Donahue: It is a matter of a simultaneous attack upon the problem by the individual and by society as a whole to bring about a change in social practices.

Fremont-Smith: I agree with you. Can we not bring into this thinking the concept that retirement should be a process and not a cutoff? It seems to me that this is the crucial point for it involves all of our social institutions. Institutions are, however, exceedingly slow to change which poses another question: How are these institutions which are man made, man driven, and man guided to change their viewpoint?

I think Dr Cowdry in suggesting pensions has put his finger on a vital point For some years we have been talking about these things but with little progress Now, however, our economy is being subjected to the danger of ill-advised pension plans and the dangerous pressures of potent political groups composed of those who feel that they are rejected by society which is what older people also feel as is very well shown by the reaction to the proposed Townsend Plan. This makes it incumbent on us I think to find a practical answer

As a society can we move quickly enough to deal with this problem in anticipation rather than in retrospect? It would be of

concrete programs of education in connection with their pension programs? It would make pensions less necessary. It would save the money of the insurance companies because it would postpone the death of individuals if adequately carried out. So that what I am proposing in a nutshell is that we try to initiate some action hitching this education program to the pension plans which are going concerns very vital to a very great many people.

Carlson: I should like to second Dr. Cowdry's suggestion.

Shock: Last week I spent some time in conference with representatives of the U. S. Public Health Service Bureau of State Services, who are anxious to do something about this problem. The question of what we can tell middle-aged people that will be of benefit to them in maintaining their health in later years arose. However, *there is little agreement about what to tell a forty-five* year-old or forty-year-old individual to do or what not to do if he is to maintain his health throughout the later years of life. The hope is that a number of demonstration centers could be set up in collaboration with Public Health Agencies to attempt to give people such information. What should be included in such instruction? I would be very happy to have suggestions as to methods, techniques, and information to be included in such a program. We have just heard about the necessity for educating individuals in terms of their changing images of self. What are the techniques? What are the methods? Do we know enough at the moment about the techniques of evaluating self-image to make recommendations as to how to educate people?

Aub: Don't you also want to educate your environment?

Shock: Unfortunately the individual has very little chance of educating the environment. This can be done only by group action which is admirably illustrated by the effects of the labor movement in securing changes in working conditions. The individual laborer did not have a chance of altering his situation individually; it was only when group action could be brought to bear that significant changes in the environment were made.

Stieglitz: In relation to the discussion of the significance of education, with particular reference to what Dr. Cowdry just said, perhaps the most important problem is not how to do it easiest, but to discover the motivations of learning. I would suggest starting with the question of motivation, of developing a hunger for

I have not been able to find a formulated body of information that could be used and upon which there is agreement

Cowdry: It seems to me you cannot quite do it that way. The thing to do first is to obtain the interest of the people who are going to be benefited. If you can get them to say what their views are and work on these views by answering their questions, then one could build up a body of information which would constitute the approach.

Shock: The questions are already being raised. Here is a group of employees who know that at age sixty-five they will be retired. There is a demand from the grass roots for such services, but what can we as professional gerontologists tell them?

Editor's Note: After discussion of this question the Conference Group formulated a request that the President of the Gerontological Society appoint a Committee to determine what can be done to forward an educational program on gerontology and the problems of aging for both lay and professional groups.

REFERENCES

1. EINSTEIN, A Physics and reality *J. Franklin Inst.*, 221, 349-382. Jan.-June 1936.
2. SCHOENHEIMER, R *The dynamic state of bodily constituents* Harvard University [illegible]
3. GOLDSTEIN, K *The* [illegible] *derived from patholo*[illegible] York, 1939, xvii, 533 [illegible]
4. GOLDSTEIN, K Organismic approach to the problem of motivation *Trans N Y. Acad Sci.*, 9, (Series II) (6), 218-230, 1947
5. FRANK, L. K Gerontology, *J. Geront*, 1, 1-11, 1946
6. KUBIE, L. S The repetitive core of the neurosis *Psychoanal Quart*, 10, 23-43, 1941
7. WEINBACH, A. P Personal communication
8. SARTRE, J P *The emotions outline of a theory* Translated from the French, Frechtman, B, N. Y Phil. Library, New York, 1948
9. STERN, K Problems [illegible] ter *In* N [illegible] ng center [illegible] Josiah Macy [illegible] *Aging*,
10. SWARD, K [illegible] mental ability in superior men *Amer. J. Psychol*, 58, 443-479, 1945
11. HAMILTON, G. V Changes in personality and psychosexual phenomena with age. *In* E. V. Cowdry (Editor), *Problems of Ageing*, Williams & Wilkins, Baltimore, 2nd Ed, 1942, pp. 810-831
12. SIMMONS, L. W *The role of the aged in primitive society.* Yale University Press, New Haven, Conn., 1945, vi, 317 pp.

value if we could interest a few large industries and unions in cooperating on a program in which there would be progressive part-time work which would maintain the self-respect of the individual and also take advantage of his wisdom and experience through an older age period. It seems to me that this could work out in progressively decreasing the amount of time that the worker was maintained in the job with progressively increasing the rate at which he was paid on the basis of his capabilities. In effect, industry would be paying him less and less and yet his prestige would be maintained because he would be getting more and more per hour.

DeVinney: A central problem in this matter of education of people for old age is the absence in our society of any well-defined and generally esteemed role for the aging. I think that Dr. Stieglitz mentioned Alan Gregg's comment about the older cultures having greater esteem for the older people. I don't know what the specific import of that remark was, but certainly it is true that in some of the more primitive cultures where old people are essentially the only repository of wisdom, there is a well-established and highly esteemed position for old people and it is something to be achieved and aspired to, to retire to the council of the wise and aged (12). It is a commonplace that in our society such roles have largely disappeared and such esteem no longer accrues to the aged.

Fremont-Smith: Except for those specially endowed.

DeVinney: Except for individuals in rather unusual circumstances. And surely an examination of just what our society *does* do to provide a sense of importance and a sense of usefulness to people after they have reached the age of retirement is a central part of this problem and an indispensable aspect of any planning of education or training for retirement.

Shock: I was going to mention that the plan you suggest of getting industry *or some group interested in taking up the preparation* for retirement is now being considered by the International Harvester Company in Indiana, largely through the efforts of Dr. W. F. King, who is the chief of the Division of Adult Hygiene and Geriatrics of the Indiana State Health Department. They are now formulating a program and are faced with the question of content. I don't worry about securing the interest of people, particularly those *approaching retirement. There* are literally thousands who are asking for the information but I must confess that

I have not been able to find a formulated body of information that could be used and upon which there is agreement.

Cowdry: It seems to me you cannot quite do it that way. The thing to do first is to obtain the interest of the people who are going to be benefited. If you can get them to say what their views are and work on these views by answering their questions, then one could build up a body of information which would constitute the approach.

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REFERENCES

1. Einstein, A Physics and reality. *J. Franklin Inst.*, 221, 349-382, Jan.-June 1936
2. Schoenheimer, R. *The dynamic state of bodily constituents* Harvard University Press, Cambridge, 1942, x, 78 pp.
3. Goldstein, K *The organism, a holistic approach to biology derived from pathological data in man* American Book Co, New York, 1939, xvii, 533 pp.
4. Goldstein, K Organismic approach to the problem of motivation *Trans N Y Acad Sci*, 9, (Series II) (6), 218-230, 1947.
5. Frank, L K Gerontology, *J. Geront*, 1, 1-11, 1946
6. Kubie, L S. The repetitive core of the neurosis. *Psychoanal Quart*, 10, 23-43, 1941
7. Weinbach, A. P Personal communication
8. Sartre, J P *The emotions outline of a theory* Translated from the French, Frechtman, B, N Y Phil. Library, New York, 1948.
9. Stern, K Problems encountered in an old age counselling center *In* N W Shock (Editor), *Conference on Problems of Aging*, Josiah Macy, Jr Foundation, N Y., 1950, pp 30-32.
10. Sward, K Age and mental ability in superior men *Amer. J. Psychol*, 58, 443-479, 1945
11. Hamilton, G V. Changes in personality and psychosexual phenomena with age. *In* E V Cowdry (Editor), *Problems of Ageing*, Williams & Wilkins, Baltimore, 2nd Ed, 1942, pp. 810-831
12. Simmons, L. W. *The role of the aged in primitive society* Yale University Press, New Haven, Conn., 1945, vi, 317 pp.

INTERPERSONAL ASPECTS OF GERONTOLOGY

ROBERT J. HAVIGHURST
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THE BASIC problem is to find out how interpersonal relations affect the individual's personal adjustment. We might also ask how interpersonal relations in the later years affect the individual's economic productivity, his contribution to the happiness of others, and his moral behavior. Yet these questions, which are so important in studying young people and people in early adulthood and middle age, become less important in relation to older people. We tend to regard old people as having pretty much exhausted their potentialities for serving others, and we allow them the direct *pursuit of happiness. To put the same thought into other words,* we believe that the path to happiness or good personal adjustment in youth and most of adulthood leads through being economically productive, contributing to the happiness of other people and being morally good; but the path to happiness or good personal adjustment in old age leads more directly to its object. Happiness or good personal adjustment we regard as a desirable explicit goal for older people; (as long as they do not bother the rest of the population too much in seeking this goal).

The two basic research problems of interpersonal relations in old age are:

a) defining and measuring personal adjustment;

b) sampling, and securing the coöperation of representative samples of older people.

We may return to these problems for discussion later, but for the time being we will assume that they have been solved. Further, let us assume that the meaning of good personal adjustment is pretty close to happiness. We then ask how interpersonal relations are related to personal adjustment.

CATEGORIES OF INTERPERSONAL RELATIONS

The interpersonal relations of older people may be categorized as follows:

Family area:
Husband-wife; parent-child; child-parent; grandparent-grandchild

Age-mates

Middle-aged and young adults

Social organizations:
Clubs, lodges, informal cliques.

Occupational relations:
Work relations, professional organizations, labor unions.

Civic relations:
Civic committees, political parties.

Church relations

The goals of people in these relations are: affection, prestige, security, power, and participation. As the individual moves into later maturity and old age, his attainment of these goals depends increasingly upon what society allows him, and less and less upon what he can take If he insists upon doing things that society disapproves, he is not likely to be happy or well adjusted.

Hence it is useful. 1) to study the actual roles that old people play in the categories stated above; 2) to find out how society regards these roles (which ones are approved, which disapproved, and which merely tolerated; and 3) to find out how these roles are related to personal adjustment.

This is one area of research for social psychologists—the area of social roles of older people, and of public opinion toward these roles

Kidd As the individual moves into later maturity and old age, his attainment of these goals depends increasingly upon what society allows him, and less and less upon what he can take. That is not necessarily true of old people of a group as witnessed by California's experience. The framework changes somewhat when you consider aged people as a group rather than individuals. There might be an area for research.

Havighurst: As older people get together to protect and secure their own interests they may be able to take the things they want and be less dependent.

Randall: Did you not make the point this morning that people could not be organized in this area? There has been some organization even if for selfish rather than altruistic reasons.

Havighurst: It tends to be geographically spotty. In most parts of the country the older people can take very little by their own main force.

Kidd: The only point I meant to bring up was to study older people as a group as well as individuals.

Havighurst: I agree.

Randall: The point made about geographical location and concentration of older groups is very important because if you look at the spread of population you realize there are certain states in which there are concentrations and others in which, because of the rural character, there is less opportunity for people to get together for social activities. That is true for people in the upper part of New York State. It is even truer in California.

Kuhlen: Personal adjustment was the topic of this morning's discussion. By "intrapersonal relationships" are you also referring to personal adjustment?

Havighurst: Yes. I have defined it here as happiness so as to avoid our spending the whole afternoon discussing it. The last part of my memorandum is devoted to a more careful attempt to define adjustment.

Carlson: May I ask you, Dr. Havighurst, how your evaluate these seven categories? I would put work first.

Havighurst: In terms of importance?

Carlson: In terms of importance for the individual. I don't know whether I am wrong or not. I would like to have your idea.

Havighurst: I suggest this as a problem for research.

Carlson: I see.

Havighurst: I would not undertake to answer that. I know for my own self what I think is the most important area in my life and I agree that it is work, but I think there is great variation among people.

Carlson: I wonder if it is habit or force. When you look at

survive. That is fundamental biology. Have we flown so far in the clouds with the soul and wings and all that sort of thing to find our fundamental adjustment away from fundamental biology? I don't see it.

MacNider: I am wondering if there is not a difference there between working, with which I agree with you entirely, or doing all the work for which one is responsible to someone else. You see?

Carlson: Yes.

MacNider: If one is responsible to someone else to judge what is being done, it would not surprise me to find a good many oldsters who would be pretty unhappy. On the other hand, if they can maintain in their work their individuality and their productivity without this factor of responsibility to someone else, I wonder if it would not be easier.

Hoskins: As to Dr. Carlson's position on the biological adaptation, it seems to me that for many millions of years as a species we have had to adapt to work and hardship as such and I quite go along with him that the one thing that our species cannot tolerate is luxury and general good fortune. We thrive under hardship and we deteriorate under too much security.

MacNider: The older individual does not have the physical power or ability to carry on that order of work. The realization that he cannot carry it on and meet these responsibilities can be a shock. Does not that tend to cause a lot of unhappiness?

Havighurst: I have been wondering whether it would be all right for me to read you an interview that I have here. It is very brief and I know it will be interesting. It is an interview that one of my assistants had in the course of study of old people in a midwestern community where we took a sample of all the people over sixty-five; a sample of one hundred people which represents the community fairly well. This man I have called Yon Yonson. Our interviewer learned that the only place he could find Yon was in the tavern where he hung out most of the time. He never could find him in his room at a boarding house. Yon was sixty-eight, had quit work, and gone on Old Age Assistance as soon as he could do so. Yon had been a farm laborer and a casual worker all of his life. He had usually worked alone, seldom held a job that brought him in close social contact with other people, and he satisfied his need for social participation by drinking beer with his cronies in a tavern. He had not been very successful in life. He

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"Yon: 'Hell, no! I worked all my life, and now I'm sixty-five the government takes care of me That's the way they said it should be and that's the way it is'

"Interviewer 'Well, you feel that when anyone reaches the age of sixty-five he should stop working and get money from the government, is that right?'

"Yon: 'Sure, that's when you stop workin'. It says so in the laws. So they support you from then on in. That's what they are doing for me now, and I'm going to let them keep on doing it.'

"Interviewer 'Well, do you save any of that money that they send you?'

"Yon 'No! I spend it all Why should I save it? It's going to come in every month If I save it I might lose it, and besides I have no one to leave it to'

"Interviewer 'Well, do you spend it all on food and drink, then?'

"Yon 'Sure, I don't need any clothes, and my rent isn't very much. Besides, I like to drink beer'

"Interviewer 'Why do you like to drink beer?'

"Yon 'What a foolish question. All my life, I've been drinking beer. Ever since I was a little boy I drank beer. We always had it at home, I've always liked it, and besides where else could I go and sit all afternoon for just a few pennies?'

"Interviewer. 'Wouldn't it be cheaper to take the beer home and drink it there?'

"Yon. 'Then I wouldn't have anyone to talk *to*. You get awful lonesome, you know [illegible]
I drink my beer w[illegible]
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"Interviewer [illegible] with the life you are leading now, and you intend to continue on that way until you die, is that right?'

"Yon 'Sure, I'm over sixty-five. The government will take care of me, and I don't have anything to worry about anymore.'"

On the other hand, we have another interview with a man of the same age, sixty-eight. This man is still working and would not quit his work. His name is Dominic.

"Interviewer 'Y[illegible]'

"Dominic 'Yes, [illegible]
but I want to work [illegible]
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"Dominic's wife 'The children want him to work less hours and take it easier, but he won't do it'

"Dominic 'No, I feel good and I like to work and I'd rather be working than doing nothing There are some fellows who are half my age who want to get out of work when they can, and they can't do as much work as I do, or they don't I've worked all my life and I like it, especially where you have a lot of people around and can visit with them while you work'"

Here is a man getting social participation on the job which makes him enjoy his work. As a young man he had gone into the mines and risen to be a mine inspector, which was a job of relatively high status; but he quit that job He said, "I quit the job because it was too lonely. I had to do all this work by myself so I quit this job and went to work in a factory where there are a lot of people around."

had never married. He had three or four cronies who came to the tavern with him, and it seemed clear that his satisfaction in life came from this social participation.

"Description of Yon: Yon is a nondescript looking man about five feet six inches tall, and weighing about one hundred forty-five pounds He has watery blue eyes, and about half of his teeth are missing. There are noticeable gaps in the front, and what teeth there are, are quite tobacco stained. He has thinning grayish-black hair, and a weatherbeaten complexion. He wears a perpetual grin and seems quite goodnatured. He was dressed in a battered felt hat, blue denim shirt, blue overalls, and black work shoes. He was also wearing a tattered mackinaw coat.

"This is the interview:

"Bartender: 'Hello, Mike, I was just telling Yon here that it is open season on Swedes, and we are trying to kill off as many as we can.'

"Yon: 'The only way you can kill off a Swede is to feed him this lousy beer that you've got here. Such stuff that you get in nowadays. Why don't you get good beer?'

"Bartender: 'Because we get old rum-pots like you that drink it all up. You'll drink anything'

"Yon. 'Oh, go on. You're just trying to poison me, that's all.'

"Bartender: 'Sure, I am. We get four cents for every dead Swede we bring in.'

"Interviewer. 'So you're a Swede, Yon I always thought you were a Norwegian.'

"Yon 'Norwegian, hell. I'm a Swede and a good one. Been over here now about sixty-three years. Yeah, I think that's right. I came over when I was four years old, and I'm sixty-seven, almost sixty-eight now.'

"Interviewer. 'What are you working at now, Yon?'

"Bartender: 'He doesn't work at anything. He just sits around here and drinks beer all day.'

"Yon: 'I do work, too. Sometimes I come around here and clean up this joint for these dirty so-and-so's. Every so often they give me a beer for cleaning it up. That's fine pay for a good, hard-working man, isn't it?'

"Interviewer' 'Well, the way beer is now, I guess you would have to do quite a bit of work to earn it.'

"Yon. 'Why, I sweep this whole place out, and then I'm lucky to get a beer out of them.'

"Bartender (winking). 'He gets all the beer he wants in here, and he knows it. He just likes to start arguments.'

"Interviewer: 'Don't you work at anything else now, Yon?'

"Yon: 'Well, no. I'm over sixty-five, and I get that pension. I've worked most of my life and now the government takes care of me Isn't that the way it should be?'

"Interviewer' 'Well, in some cases that's true, but you look like you're healthy enough to keep on working'

"Yon: 'But I'm over sixty-five. I don't have to work anymore'

"Interviewer: 'Well, let's look at it this way There are some people only forty-five or fifty who are unable to work, and can't get their pensions, and then there are others like you over sixty-five or seventy who can still work and do without it. Wouldn't it be better if you took the money that you're getting now and gave it to those people who really needed it?'

"Yon: 'Hell, no! I worked all my life, and now I'm sixty-five the government takes care of me. That's the way they said it should be and that's the way it is.'

"Interviewer: 'Well, you feel that when anyone reaches the age of sixty-five he should stop working and get money from the government, is that right?'

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"Yon: 'Sure, I don't need any clothes, and my rent isn't very much. Besides, I like to drink beer.'

"Interviewer. [illegible]

"Yon: 'What a [illegible] beer. Ever since I [illegible] home, I've always [illegible] all afternoon for just a few pennies?'

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[illegible] satisfied then with the life you are leading now, and you intend to continue on that way until you die, is that right?'

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On the other hand, we have another interview with a man of the same age, sixty-eight. This man is still working and would not quit his work. His name is Dominic.

"Interviewer: 'Your job is steady?'

"Dominic: 'Yes, when I was sixty-five they told me I could retire but I want to work as long as I can. I like to work. It gets too lonesome when you don't have work to do.'

"Dominic's wife: 'The children want him to work less hours and take it easier, but he won't do it.'

"Dominic: 'No, I feel good and I like to work and I'd rather be working than doing *nothing*. There are some fellows who are half my age who want to get out of work when they can, and they can't do as much work as I do, or they don't. I've worked all my life and I like it, especially where you have a lot of people around and can visit with them while you work.'"

Here is a man getting social participation on the job which makes him enjoy his work. As a young man he had gone into the mines and risen to be a mine inspector, which was a job of relatively high status; but he quit that job. He said, "I quit the job because it was too lonely. I had to do all this work by myself so I quit this job and went to work in a factory where there are a lot of people around."

One sees here that the role of social relationships in the work situation is perhaps subordinate to social relations more generally. If one enjoys working with people in the work situation, then one is apt to want to stay on at work; or if one acquires prestige from the work performance one wants to stay on. If the work situation is just plain drudgery, with no other rewards, then one is likely to take the position that Yon Yonson did with respect to work.

DeVinney: I should like to ask Dr. Havighurst whether he does not think it would be useful to clarify further his point, which I think is fundamental, that retirement and release from work mean quite different things to different people. I think he should go ahead and spell out the range of things outlined in his paper where he has addressed himself to this question.

Cameron: I would like to ask whether that isn't in some measure a function of the socioeconomic group from which people come. I think I am correct in saying, using the sociologists' terms the lower lower social group does not have any very considerable motivation to continue work beyond a certain point whereas the lower middle class and upper middle class do.

Havighurst: That is a good point. Yon Yonson is in our definition lower lower class and Dominic upper lower class. The latter are more interested in work and get more satisfaction from their work.

I might follow Dr. DeVinney's suggestion here and read into the record my own particular analysis of the satisfactions that people do get out of work. I have five categories, five kinds of meaning that work may have to the individual.

> "*The first is that work may be a source of prestige and the basis* for a sense of worth. That seems to me to be applicable to about eighty p [illegible] a moral meaning to them. It [illegible] y people and it contributes [illegible] em of course retirement is [illegible] very important for their personal adjustment.
>
> "The second meaning of work is that of a locus of social participation. That was the situation of Dominic, the factory worker. We know that a good many people, particularly people in mass production industries and in business at the lower levels get a lot of enjoyment out of work because it is a place for social participation and we know the experiments of Elton Mayo and others where on increasing the amount of pleasant social participation the productivity has gone up. In some cases people will actually produce more when they are allowed to enjoy more social participation
>
> "Then the third meaning that work may have is that of simply being a means of earning one's bread and butter. Work is an economic [illegible] You do as much as you need to do to earn a living. This of

course applies to all of us to some extent but it is not a major motivation in many people.

enjoyment

"Fifth, work is a heavy and unpleasant [illegible]

Nobody falls completely into one or the other of these five categories. Work has several meanings to everybody. I suggest as a research problem the finding out of the extent to which people do weigh these various meanings of work in their own lives. If we knew more about that then we would know more about the problem of retirement.

Hoskins: Isn't there another important category that comes in there? Work is often the means of maintaining identification with an enterprise which in itself is a token of importance. A man is an employee of the General Electric Company. He takes a great pride in being part of that effective organization. When he can no longer work in that society it means severance from the enterprise and consequently a lowering of the self-esteem.

Frohlich: I think work has still another meaning to people. It serves as a sort of insurance against uncertainty and newness. The routine of work and of doing something familiar becomes necessary for people as a sort of protection against the hazards of unknown situations.

Havighurst: They have developed a habit, and repetition itself is often a source of mild pleasure.

Hoskins: It saves one from the onus of being a greenhorn.

Stieglitz: It avoids the necessity of having the opportunity and the obligation to think. This is probably one of the most important motivations for working hard and continuously. Many people will work until exhausted just to avoid thinking.

Kuhlen: This point of identification with one's occupation is very interesting. I think it was Woodworth who once commented upon the tendency to identify with work, and then pointed out that upon retirement such identification is no longer possible.

What happens when a person who thinks of himself as a lawyer, a professor, or a railroad engineer, can no longer identify with his occupational group? Does his "self-concept" undergo drastic reconstruction?

Carlson: Would it be worthwhile, Dr. Havighurst, to have some kind of check on the interview material? Was that a town or city? Would that be worthwhile with another group of people, say farmers?

Havighurst: We have interviewed a number of retired farmers. In fact Yon Yonson was a retired farm laborer, but he never made a success as a farmer.

Randall: He was not a responsible farmer.

Carlson: He was not a farmer.

Havighurst: Some of the retired farmers, even though their sons have taken over the farm, are still identified with it. They go back and help at the peak work time, and for them work has quite a different meaning.

Carlson: That is the point I wanted to make.

Malamud: I wonder too in looking back at this morning's presentation by Mr. Frank, whether in more cases than we realize work may not be a means of preserving earlier experiences, reliving the experiences of earlier life, maintaining identification with persons or settings which were approved by society.

I think that a good deal of the enjoyment one gets out of work, or the need for continuing work, may be on that basis of retaining the old status and old identifications. On that basis we may build up religious, ethical, or moral reasons for work.

DeVinney: Isn't part of it related closely to not having to think about what to do, for work is a time occupier? Comparatively few people seem to like just to do nothing. If one's life has been devoted so exclusively to work that his habits are related solely to the work he has done throughout his life, when he is cut off from that by retirement he has nothing whatever to do. As long as one can continue in his job, there is something to do all day long, something to make time go along. Without the job, many seem to have no alternatives. And you know enforced idleness is harsh punishment for a large number of people.

Carlson: In these one hundred older people you studied did you

find any who were interested in increasing their understanding? *Were they interested in study or in mental activity?*

Havighurst: I remember one man who was making quite a study of atomic energy. He was a retired school teacher and was becoming the local expert on atomic energy. I am not sure how much of this was repetition of the pattern of liking to study and how much was the fact that he could become the expert in this small community; you see by knowing about atomic energy he could go around making speeches. He was over eighty and people were beginning to neglect him. Now he could get back into the stream of events because people liked to have him speak.

Carlson: One of the hundred happened to be a teacher. There were not some other teachers?

Havighurst. Yes.

Carlson: Just teachers?

Havighurst: I don't know. We are just analyzing the data now.

Carlson. The point is, has human curiosity gone completely dead in the majority?

Havighurst: I don't think that curiosity is a striking element in the pattern of these people

May I call your attention, before we move on, to this last paragraph that I read. I regard the study of the roles that people play in these categories as an important area for study. One can describe roles within each of these categories that go all the way from being very active, aggressive, taking the lead, for example, in politics, running for an office and so on, to the other extreme of ignoring, never voting, paying no attention or in connection with work, of retaining one's power in the work situation up to the very end. On the other hand, Yon Yonson would be the extreme one who turns his back on work, gets nothing out of it.

Then I think it is fairly important for us to know how the public regards these roles because I would say that a person's own personal adjustment depends a great deal upon what people think about it. Therefore, if he plays a set of roles which are approved

able importance for us to know what the social approval value is of the various possible roles for older people in our society.

MacNider: Don't you think that the suddenness with which changes come about at the time of retirement has a great deal to do with the unhappiness of the individual?

Havinghurst: Yes, I believe so.

MacNider: I have *often thought about that in terms of uni*versity life. You go along actively and with interest. Then your sixty-fifth birthday comes, and bang! You no longer are of any account, get out. You say, well, that is the end of it! That is rough stuff and causes a tremendous amount of unhappiness. In one case, with which I am familiar, just that feeling led to an attempted suicide. However, if the individual knew that he could take sixty-five as a warning date and be permitted, without salary change, to do less work, to ease up *until seventy, it is my opinion that the* institution would gain and that certainly the individual would not only be able to make a smoother adjustment, but would also be spared a great deal of unhappiness.

Time is so important in any biological reaction. If one can have time to work things out an adjustment can be made, but if events come about in a catastrophic way, that generally spells some degree of wreckage, does it not?

Stieglitz: Dr. MacNider, with the importance of the abruptness of retirement and your comments on it, I heartily agree. But, after all, whether it be at sixty-five or at seventy, this is a *predictable* abruptness. There can be anticipation for it. We probably see the most abrupt and unexpected problems with a need for rapid accommodation in those individuals who by reason of some physical illness, such as coronary occlusion and myocardial infarction or *cerebral accident, are retired abruptly when they had no reason to* anticipate being shelved for many years to come. With proper guidance, these difficult and unexpected adjustments are frequently extremely satisfactory.

MacNider: Well, that I think is not the same thing. Illness can be a *cause for retirement, but often a man at sixty-four in the* university is pretty active and then sixty-five comes and they say, "Get out. You are no longer competent to do this job," which in many instances very *likely is not true.*

Havighurst: It is interesting to note that of all the possible interpersonal relationship areas I threw out for discussion this

group has chosen to stay on work, which I think is characteristic of us as a class.

May I move on to the next point?

LATER MATURITY AS A PERIOD OF TRANSITION IN INTERPERSONAL RELATIONS

An examination of the life cycle of the average man or woman indicates that later maturity — ages sixty to seventy-five — is a period of marked change of interpersonal relations. Probably the degree of change is greater than it has been at any time since early adulthood The principal changes are:

Widowhood—for women and men

Loss of employment—for most men and some women

Loss of family by departure and dispersion

Loss of friends by death

In general, the transition is from a state of maximum interpersonal relations to one of minimum interpersonal relations. Usually a person in his fifties has a maximum in quantity, at least, of relations with other people after which there is a sharp change downward. Questions for research are: What do these changes mean to the individual? How is personal adjustment related to these changes?

I have set up a number of hypotheses with which research might be concerned. You will note that some of these will contradict others. They suggest questions which I cannot now answer.

HYPOTHESES CONCERNING INTERPERSONAL RELATIONS

1. Quantity of interpersonal relations is directly proportional to personal adjustment The more the quantity of social activity in relation to other people the better the adjustment.

2 A slow tapering off of interpersonal relations is positively associated with good personal adjustment. This is somewhat opposed to No. 1 It is a slow gradual tapering off. It suggests that a person may not be able to keep up with the maximum of interpersonal relations; it would wear him out and it would be better if he does taper off.

3. Interpersonal relations appropriately related to physical vigor are associated with good personal adjustment. That is, for a

given level of physical vigor there is an optimum quantity of interpersonal relations.

The person who is quite vigorous physically needs a maximum of interpersonal relation. A person who is growing tired, who is becoming an invalid, does better with a lesser quantity of interpersonal relations.

4. Specific areas of interpersonal activity are more closely related than others to good personal adjustment. For example, interpersonal relations in the family and with age mates may be more closely related to good personal adjustment than interpersonal relations in the civic area.

To go on with that thought, our discussion a few minutes ago would indicate our judgment that interpersonal relations in the work area are more closely related to personal adjustment than relations in certain other areas.

5. Satisfactory interpersonal relations are positively correlated with good health and with rapid recovery from illness. For example, a group of people with active and satisfactory social participation will have fewer days of illness per year than another group of poorly related people whose health is objectively the same.

Mr. Levin, who is connected with the Hodson Recreation Center in New York, claims that people who participate in the programs of the Center have fewer days of illness than others who have the same objective health. And if they do get sick, they recover and come back quickly to the Center.

Stieglitz: What do you mean by the same objective health?

Havighurst: You could run a hundred people through a geriatric medical examination and separate them into two equal groups with respect to health. Then you could take one group and see to it that they were in a good situation as far as social activity is concerned while the others were left to drift. The half who were in the good situation from the point of view of social activity would have less illness and would recover more quickly. That would be the hypothesis.

Kuhlen: There is also the possibility that those who have less participation are not in poorer health, but are simply more preoccupied with their health.

Randall: For those with more participation there would be less preoccupation with illness rather than less illness.

Carlson: Which is the cause and which is the effect?

Randall. It is very hard to prove.

Fremont-Smith. Delayed recovery comes in there, prolonged convalescence, because illness very often provides a new social contact for those who do not have adequate social contacts.

Randall: Or who haven't any other.

Hoskins: Then there is an obvious physiological facet. The one who is agreeably busy has less time for worry, and has less anxiety; and with less anxiety there is less upset of the physiological mechanisms. I think anxiety is both psychologically and physiologically important.

Carlson. This raises a very difficult and unsettled question in physiology and medicine. For example, it brings up the question of an arthritic going up to Ste. Anne de Beaupré in Canada or one of the other miracle places and actually leaving his crutches and walking away. Is it inhibition that prevents the pain from reaching the conscious centers? In many cases of admitted quackery the same situation prevails. Here you are dealing with activity which to a certain extent ignores the milder afferent impulses of possible pain It is an extremely difficult, but important and unsettled question The fundamental facts are there, I think; the mechanism I just do not know

Frohlich. In th[illegible]
be preferable [illegible]
son not having [illegible]
with other peo[illegible]
and possibility [illegible] working with others provides for satisfying his need to invest feelings and interests in others.

Hoskins Distraction of attention.

Carlson· That is probably as close as we can come to it with our present knowledge.

Fremont-Smith. I think we do know a little more. We know something about the interrelationships between emotional stimuli and physiological response and we know that those responses may go to any organ or every organ, both by nervous impulse and by hormonal influence. We also know that organs which are maladjusted, which are not working well because of disease or other

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of the emotional problem. However, we don't understand the physiological and biological, or the chemical pathways in arthritis. We know enough from other cases to be able to say reasonably that there are physiological mechanisms that can work in that direction.

Aub: I am fascinated that Dr. Fremont-Smith calls it simple. I remember the time when he was looking at the capillaries in a girl who had spasm of her capillaries; suddenly all motion stopped in those capillaries. He did not understand. Remember that?

Fremont-Smith: I do remember. It is on record.

Aub: I object very much to the point being called simple.

Fremont-Smith. I take that back. This was a girl with Raynaud's disease whose one side had been operated upon because of gangrene and in whom Jimmy White and I were examining the capillary flow. When I came into the room and met her and shook her right hand, which was the unoperated hand, I said to Dr. White, "I don't see how we are going to get baseline values on this girl because she is already in spasm." Her hand was white and cold. As I shook it I noticed it. He said, "Don't pay any attention to that She always gets that way when she meets anybody new. She will be all right in a few minutes" By the time I had the apparatus set up, her hand was nice and warm and as I examined the capillary flow, it was a good, normal, rapid flow and I kept on watching it for about 15 minutes to get baseline observations We had done nothing at all All of a sudden under my very eyes the blood stopped flowing. I could not understand this because I had never seen it before. After fifteen or twenty seconds, it had not started again, so I looked up to see what was going on. In the doorway stood Pete Churchill and Jack Marvin, both strangers to the patient. After a minute or two of silent observation, they went on about their business, and in another thirty seconds the blood flow was back to normal So you brought out, Dr. Aub, just what I would like to point out. Here was a girl who, whenever she met anybody new, had spasm of her blood vessels. Meeting someone new I would say probably is involved in her case with an anxiety and perhaps went back to some anxious moment when she met somebody new as a child Perhaps there were repeated episodes of that sort. In any event, while I was watching her she almost met two new men who stuck their heads in the door. There was an immediate abrupt stoppage of blood flow and it started again within thirty seconds after they left. I don't claim it is simple but I do claim that in this instance the physiological pathways were relatively

reasons may be influenced favorably or unfavorably by these hormonal and nervous impulses. Therefore, we have physiological mechanisms set up and although we cannot specify them, we can show the relationship between some of those and some of the pathological processes. So, we have pretty good evidence that you can have organic illness influenced by emotion.

If you take the very simple case of Raynaud's disease where the spasm of the artery leads to gangrene of the fingers, and there is good evidence that those spasms are brought on by exposure to cold which is a stimulus of the sympathetic nervous system, the mechanism is quite clear. Also, when exposure to acute infection induces a spasm, the mechanism is similar. In addition, exposure to anxiety, or fear, or guilt, often even unconscious guilt, will bring on the same spasm of the blood vessels, leading to gangrene, which is due to stimulation of the sympathetic nervous system. In all three of these examples proof can be obtained by cutting the sympathetic nerves and thus halting the process.

It also seems to me we know enough to say that it is possible to relieve people of some forms of anxiety which bring on just this kind of spasm. In some of the cases described by Harold Wolff, (1, 2) where he had immediate bleeding of peptic ulcer under frustration, we can say we know physiological mechanisms may be initiated or thrown into action by emotional or social maladjustment which can influence normal physiological and pathological physiology adversely or favorably. That, it seems to me, is one solid ground at the physiological, even at the biochemical level. What we cannot do is specify in the different situations, particularly in arthritis, how the mechanism operates.

Carlson: There may be two things. On the one hand, the arthritic under emotional elation may simply ignore pain stimuli and proceed to walk away perhaps further damaging his arthritic process while he is doing so.

Fremont-Smith: Dr. Holbrook, who is President of the American Rheumatism Association and an internist, has given a great deal of time to the study of arthritis out in Tucson, where he sees a great many cases. He tells me that time after time he has found in the study of patients that the arthritic process, the acute process, was initiated by severe emotional trauma in the person's life. He has also found that time and again when the patient has really recovered in the sense that the objective signs of arthritis disappeared that recovery followed immediately after the readjustment

Havighurst: To test these hypotheses there is need for a method of measuring interpersonal relations in at least two dimensions—extent and intensity. What is needed is a method of recording interpersonal contacts and at the same time weighting them for their affective or emotional values to the individual. How would you extend that statement?

Carlson: Do you propose to evaluate emotional effects by interview or by heart rate or brain wave measurements?

Havighurst: That is what I want to know. How do we get at this?

Carlson: I don't think interviews would mean much. The best way of approaching the problem would probably be by using some measurements of blood pressure.

Cameron: I don't believe you can evaluate emotion by any means that I know save by various types of depth interviews to uncover what kind of things it is that a given person wants. I don't think you can afford to generalize too soon. You have to explore the range of needs of quite a few people to attempt to determine the needs of interpersonal relationships.

Fremont-Smith: I agree with Dr. Carlson one hundred percent Here is the complexity: the key to the problem is weighting. We don't know the first thing about quantifying situations with respect to their emotional value. We are beginning to be able to describe the quality and something of quantity in rough steps of plus, plus-plus, plus-plus-plus-plus but as far as precise evaluation, we cannot do it. We do not have the yardstick for quantitative measurements I should like to refer again to the Reynaud's case and point out that you have in the spasm of the blood vessel, which is an example of the physiological end result, the summation through the sympathetic, in this instance, of the hormone of febrile response, the emotional, or social response, environmental temperature, and many other factors. So you have four or five, or maybe more different physiological stimuli acting on the same end organ and among those is an emotional factor.

Mittlemann and Wolff (3) working on cases with Raynaud's disease found that it took less emotion in a cold room to produce a spasm or conversely, it took less cold in a warm emotional atmosphere to produce a spasm of the blood vessels of the extremities. Here you have both a summation and its opposite.

clear. So, although there is much more to be learned, I think we have a solid frame of reference there about which we can talk.

Carlson: Feeling happy is also an emotion, Doctor, so we cannot use emotions. We have to use a specific type that does the thing and according to more recent work absolute absence of conscious emotions, as in certain types of chronic ulcer working on the subconscious vagus mechanism can upset things. You are absolutely right, Doctor. It isn't simple. The more we proceed the more complex it becomes.

Havighurst: I will go on with the presentation of hypotheses concerning interpersonal relations.

6. Continuation of the established pattern of interpersonal relations, whatever it is, tends to be positively related to good personal adjustment. A sudden change of interpersonal relations is associated with reduction of personal adjustment. For example, sudden retirement, the death of a wife or husband. This would be a hypothesis.

Frank: You are making that pretty quantitative, or would it also involve cessation of relationship with some significant person? I think a very important question for research is the extent to which the relationships with individuals may form a constellation around some significant central person. If that person drops out there may be a considerable jeopardizing of or break in, all the other interpersonal relations. So it is not just quantitative.

Havighurst: That is a good point. I have used throughout the term "quantity of interpersonal relations" but Mr. Frank points out that quantity is not to be determined by simply counting contacts.

Randall: Quality.

Havighurst: I will have more on that later.

Cameron: In expansion of what was first said, I feel that we are placing too much overall emphasis on interpersonal relationships because an individual can be sustained quite satisfactorily with rather limited numbers of relationships providing those relationships meet his particular needs, whereas others may need a very large range of relationships I wonder if in setting up your propositions for eventual research you do not have to state what kinds of things have to be done within these relationships in order to maintain the satisfactory adjustments.

cardiotachometer designed to measure the rate per beat has found that you cannot record pulse rates without raising the values. You cannot take blood pressure without raising blood pressure. I think it has almost got to be put down on the level of Pavlov's orientation reflex.

Fremont-Smith: That does not deny meaning.

Cameron: No.

Fremont-Smith: You still have to ask the meaning of "orientation reflex."

Cameron: Flow.

Fremont-Smith: Symbolically, or psychologically?

Cameron: Interpersonal.

Fremont-Smith: Interpersonal, meaningful relationship with anxiety.

Frank: Two points I want to make, in this endeavor to register intensity we have been considering primarily, observing, and measuring the individual under study. We now recognize that our recording or measuring devices may interfere with the very process or activity we want to measure; when we want to get the quality of interrelations between individuals we may be recording the reactions of the subject to the therapist or experimenter. If we put in some apparatus maybe we are interfering with the thing we want to get at. That is one point.

The other point I want to raise is this: Perhaps some of the sociometric techniques for determining the role an individual is assuming may be of value. It has been found that an individual who has a very strong dependence or attachment to various people may mean little or nothing to them, and that gives us some indication of the significance of that one-sided relationship in whatever he is striving or fighting for. We may emphasize the necessity of interviewing, or getting data on the individuals who are said to be related to the individual whom we are studying. I think you would agree that is a pretty important part of the whole research?

Havighurst: Yes.

Cowdry: I know very little about this matter but I would like to ask a question. You speak of the principal changes in interpersonal relations with advancing age. Loss of employment is ...

Stieglitz: How did they measure "less emotion"?

Fremont-Smith: They measured it roughly in terms of what the patient talked about. When a less disturbing emotional factor was being discussed a spasm of the blood vessels could be produced in a cold room while the same topic would not produce blood vessel spasm in a warm room. In fact, even the slightest reference to certain sensitive topics would throw the blood vessel into spasm in either a warm or cold room. So that we are up against an extremely complex situation in which four or five different dimensions are concerned simultaneously.

Hoskins: Getting back to Dr. Cameron's point for a moment, he said that in principle only a deep analysis would bring out emotionally significant events. The so-called "lie detector" is supposed to be a way of getting at these deeper meanings by way of physiological changes in pulse rate, skin resistance, blood pressure and respiration. There are various gadgets that purport to do this in more or less practical terms dealing with patients who are reacting to submerged material. Are these gadgets really helpful?

Cameron: I think you could say yes, a little. I recently started using the electrocardiotachometer on some of my patients in psychotherapy and it does undoubtedly give you a certain amount of information, but I don't think it gives you anything like the overall information obtained by one's own summation and review and general evaluation of what is meaningful to the person.

Going back to this for the moment, one might say every psychotherapist every day sees people in the most intimate of interpersonal relations. This relationship is often quite destructive and damaging to them and this can only be brought out adequately, I think, in terms of evaluation and summation at the level of what the person says. You cannot really state it adequately in terms of changes in skin resistance or heart rate. They are of assistance but the main thing is evaluation by the therapist.

Hoskins: To what extent is the therapist himself a factor? How much does the therapist read into the data he is getting?

Cameron: That is always a problem and the only answer to it is the empiric one of what works. That is what we have to rely on.

I might add a practical point to what Dr. Fremont-Smith was saying about the Raynaud's case. I don't think that you have to postulate very much of an emotional meaning to a situation to get that kind of response. I think everyone who has worked with the

Havighurst: The rate of recovery is probably also less. Even though the amount of displacement is less, the rate of recovery is slower too.

Frohlich: We talk about lability of affect in connection with organic changes in the central nervous system. By this we mean easily changed emotional states or their rapid changes appropriate to the situation but of a rather shallow quality. What I had in mind were the physiological accompaniments or manifestations of emotion such as skin resistance changes, heart rate, or blood pressure. These I believe are generally quantitatively diminished with increasing years

MacNider: The same way with fever.

Shock: In the Adolescent Study carried out at the University of California, (4, 5) continuous measurements of pulse rate, blood pressure, respiration, and skin resistance during and following the administration of emotion provoking stimuli were made. The most striking thing that came out of the work was the unpredictability of the physiological response to the same stimuli from one age to another in the same child. We were never sure whether it was because the physiological response had changed with age or whether it was the emotional value of the stimulus which had changed. We would like to carry out the same experiment on older people but [illegible]

se[illegible]

ol[illegible]

pe[illegible] because you don't know what the responses of the subjects were forty or fifty years before. It seems to me that is the dilemma with which we are faced We need some kind of agreement or some technique whereby we can evaluate the emotional value of the stimulus

MacNider: What children were used?

Shock. The children were selected from the school population of Oakland, California. We started with them at ten years of age, and tested them every six months until they were eighteen years of age.

Cameron: I wonder if we cannot get away from the word "emotion." It has not been challenged today but it is rapidly being undermined. I wonder if we cannot substitute the word "stress." There are many ways of producing stress. I know Malmo has done so by using the heat beam on the forehead (6).

of these. It seems to me that there is more than that, that there is a change in attitude as well as a loss. That is, when the average man goes out and performs his duties he is an employer. I mean that seriously. Even if it is in a small capacity he is an employer still. At age sixty-five when he is fired by the university, as MacNider says, he comes back to the home. He immediately and suddenly must change his whole manner of life. Instead of being an employer he becomes an employee in the home and to make this adjustment really is a considerable task. It can be put in a ludicrous way, but I don't mean it in a ludicrous way.

Stieglitz: A fact which we must not ignore is the profound effect which retirement of a man has on his wife who has been able to survive quite happily because for at least eight or ten hours a day he was away from home; then, all of a sudden, he is under her feet all day long. In many respects her adjustment is more difficult than his.

Cowdry: There you have an interpersonal relationship.

Stieglitz: She is no longer the same woman because of the change in her environment.

Cowdry: It has been her environment.

Stieglitz: It is changed by her husband's being at home all day long.

Cowdry: He comes into a new environment which he has not yet adequately sampled as an employee.

Hoskins: And her anxiety reinforces his.

Aub: Does anyone know whether the physiological responses to emotion are greater or lesser as you grow older?

Frohlich: I cannot give specific references, but it is my impression that physiological manifestations of emotion are generally diminished with increasing years as is reactivity in general. The physiological responses to emotion diminish just as febrile reactions or leucocytosis diminish in connection with organic insults.

Fremont-Smith: If that is true, and I have no doubt that it is in some organ systems and some emotions, it is important to get it specified. I think, too, that we need more data. There are some older people who are much more irritable to certain stimuli, or to what appear to be the same stimuli, than they were when they were younger. I am not sure that we can make the generalization but it is certainly an important problem for research.

Shorr: As I have listened to the discussion this afternoon it appears that most of the unhappiness and maladjustment of old people seem to be related to the loss of a domination relationship to the environment, the kind of relationship that is quite apart, for example, from the domination of a field of learning. The ornithologist would not suffer except insofar as the physical limitation of his activity would prevent him from pursuing his studies nor would someone whose interests are in eighteenth century literature lose this relation to his sphere of interest. Somehow our mores have so exalted a dominant relationship that perforce, readjustments, when required, are made difficult. Is this something that is so essential, so a part of our mores that it cannot be changed, or is there something we can do by way of preliminary education that would retain for the retiring individual some field of interest which does not involve this type of domination relationship?

Malamud: Why do you say domination? Is that the only important feature? In terms of what Dr. Havighurst mentioned, it may mean another important factor, namely, the loss of a mate.

Shorr: I was not referring to the work relationship.

Malamud: You also mentioned loss of mate. It is really a loss of *status quo* rather than loss of domination or submissiveness. The man who loses his wife—and let us, for argument's sake, take it for granted that the man dominates the wife—the man loses his wife and subsequently develops an involutional psychosis or senile psychosis, quite definitely in relationship to loss of mate. A similar situation develops when the woman loses her husband and thereby the relationship with him, the contact with him, the dependence upon him, so that both factors work. It is not so much a question of losing dominance or submissiveness It is a loss of a certain setting to which we are accustomed and upon which we depend.

Shorr Since so much of the discussion has been related to work and the loss of the work relationship, it is evident that this is one of the major preoccupations of the retiring group.

Cameron: I think *some of the difficulty is the* stereotype concept that we have of the work situation. I am not sure that Dr. Shorr was thinking of the work situation in the structure of the job hierarchy of going from the vice-president to the straw boss and on down. The relationships which are really meaningful are the informal relationships Th[illegible]
individual are such things as

Fremont-Smith: The measurement of the stress would be in terms of the heat emitted by the light source but what we are after is graduated meaningfulness to the individual or graduated intensity of the stimulus in terms of the individual rather than in terms of the stimulus. I do not believe that one can conceive of having a stimulus that would have the same meaning to any three individuals or to the same individual at any three times; I would go further and say you do not have a physiological stimulus that would be the same. We know that the status of the organ will determine the response just as much as the organism. For example, one investigator reported that histamine lowers the spinal fluid pressure whereas another reported the opposite. Further study showed that both were right—but that the effect depended on the anesthesia used. With ether, histamine lowered the spinal fluid pressure, whereas with barbiturates it raised it and without anesthesia it lowered it. Similar discrepant results were reported with pitressin or pituitrin. First it was reported to be a diuretic and now it is known to be an antidiuretic because it was given to animals under anesthesia. In animals not given water it produced an increase of flow of urine by the kidney. If you give pituitrin to the unanesthesized man and give him water to drink it blocks the outflow of urine. If you give the unanesthetized animal water and pituitrin you get anti-diuresis but if you give it to dogs that are dehydrated, without anesthesia, then instead of blocking the flow of urine it increases it. So that here again is a drug which is either a stimulus to increased urine flow or inhibits increased urine flow, depending upon the previous state or previous history of the organism. The reason I bring it out is because it takes the psychological stimuli out of a special category and shows that this is a general phenomenon, that we no longer say, "What is the response to the stimulus?" but we say from now on, "What is the response to the stimulus when the organism is in this particular state?"

To come back then to our original premise, if we use stress psychological, or emotional, we need to define the state of the individual prior to giving him the stimulus and only then can we obtain comparable results. That is the complexity with man. We don't know how to define the stimulus in the infant, much less in the adult or older person. It seems to me this is a basic frame of reference. We could talk about finding an emotion appropriate to give to older people or stress to give to older people to get a comparable response for a long time uselessly unless we take this as a basic point of reference.

Shorr: That may be a bad choice of word.

Frohlich: I don't mean control of others in the sense of dominating them, but control of one's situation, chiefly internal equilibrium which often means being secure in the situation. It seems to me that our self-esteem, prestige, and our self-image depend upon what powers and capacities we have to control our own impulses and our own responses to various stimuli.

Shorr: It may be the power to do good. I have recently seen two instances of different reactions to illness. One was in a man, a doctor, who had been in a dominating relationship to his environment as chief of the gynecological service, who following a coronary made an extremely good physiological recovery so that he could play nine holes of golf with ease. Yet his emotional and psychological recovery was less good because he was exposed to a group of people who knew him when he had complete domination over his environment and who now saw him as an individual who was frail and subject to the same vicissitudes and hazards as anyone else.

The other was a man who was one of the most kindly I have ever seen, who during recovery from a coronary actually champed because he was not able to get out of the hospital and back to his situation in which he could continue to do things for others. It is cases of this sort that have persuaded me that loss of a controlling relationship may be involved in the attitude toward retirement in some groups, at least.

Simms: Perhaps he had a desire to retain his prestige.

Shorr: That goes with the satisfactions that come from the prestige.

Cameron: It is merely a matter of words which separate the two ideas, because if you simply say it was the disturbance of the ongoing relationship between himself and those people with whom he is immediately in contact, then you have it. We every now and then see women teachers about fifty-six or fifty-seven who show premature aging—memory is beginning to fail and they become increasingly upset about the fact. With retirement age roughly seven years away their cry is, "What am I going to do; how am I going to maintain my effectiveness, my general relationship with my pupils and with the school management?" There you have an anxiety state developing which has unfavorable repercussions and the deficit becomes progressively worse.

one can talk things out with the fellow on the job, or the matter of reassurance in the sense of doing the same thing again with the same group of people and so on. There is nothing much in the way of domination or submission in that kind of informal relationship between the people, shall we say, in the assembly room. Since the work situation has been chosen, one should not look at its formal structure but rather look at the informal structure.

Shorr: I was thinking of a small group in the population, let us say the group which we represent, for which you have given expression to what seemed to be the major concern. Would you accept this attitude as important for that group?

Cameron: I doubt that it takes the place of some of these other things even in this special group because in our own university departments I am sure we are all aware of the fact that the formal structure is not the meaningful structure. It is the informal structure that is most important.

Malamud: Some time ago I treated a man for a very severe agitated depression that developed between the involutional and senile periods, somewhere around sixty-four to sixty-five. He developed his depression in reaction to being promoted to head his department. He was getting along very well as long as another man was head of the department and he was his assistant. As a matter of fact, he did most of the work, as quite frequently happens with assistants in departments. But he did not have the psychological sense of responsibility. It was that particular point of being head of the department that tipped the scale. Freud referred to this as success neurosis. The head of the department became dean of the college and our patient was told that he was going to be promoted to chief of the department. Within two or three months he developed a very severe depression and continued in it until the original status was restored, in which the dean took nominal responsibility for the administration; our patient then recovered. It is not a matter of domination. I agree with Cameron that there are other factors which are of importance. I think very frequently it depends upon the maintenance of the *status quo* to some extent with some of these people, and it also depends upon what type of person you are dealing with.

Frohlich: I think that instead of domination, we should perhaps say control.

n poorly adjustment individuals, for multiple personal contacts can be an escape mechanism. The individual may be unable to adjust to existence alone or nearly alone. Thus your criterion may, in certain instances, apply inversely to the adequacy of personal adjustment.

Shock: I want to go back to Dr. Malamud's thought, that a primary source of maladjustment among older people is their inability to accept change in the *status quo*. If we are going to train people for better living in the later years, we must apparently teach people to accept changes in the *status quo*. If the general principle that you learn by doing is accepted, my question is, "What techniques could one set up to assist people to learn to accept change?" Can it be learned from discussion, interview, or is it only by the hard experience of making adjustments? Children do accept changes in the *status quo* during the developmental sequence; apparently that is not too difficult an adjustment for them.

Malamud: Let us look at it this way: the child looks forward to changes because he is growing and getting more successfully adjusted as he grows, so to him the growth and change are welcome things, whereas to the old person, any change that takes place is at least traditionally accepted as being a regression. In other words, he is going down, where the youngster is going up. That is why the old person is much more likely to want to hold on to *status quo*, and the child wants to drop *status quo*. As a matter of fact, if the child did not do that he would not be able to adjust. As Mr. Frank said earlier, maturation means actually emancipation from older forms of adjustment and acceptance of newer ones.

What I found in psychiatric conditions is this, that the change in *status quo* is particularly difficult when the person has restricted himself to certain "time-bound" types of activity. For instance, it is much more difficult for a baseball player to grow old or for a tennis player to grow old than it is for a musician because of the fact that the usefulness of the professional ball player is dependent upon his youth. My boys tell me that Joe DiMaggio is already *an old* man, because he is thirty-three or thirty-four. It is much more difficult for such a person to adjust himself to old age than for one who has not limited his interests to such activities. The important point in teaching people how to grow old successfully is to advise them to invest emotional interest in activities which are not time bound and to keep them in store for

Shorr: I wonder whether there are any cultures in which the cultivation of these relationships does not depend so much on such formal patterns. Possibly in the more rural countries, possibly in countries with a longer cultural tradition, there is not so much emphasis on the rather formalized relationship to society as on the relationship to things that are of cultural nature and can be pursued independently. Is it this shift in our own present culture which is making this transition so difficult?

Cameron: I hope we have a chance to discuss this later. I think undoubtedly the shift in cultural pattern has exposed these older persons to great hazards that were not in existence at an earlier period, when they had a role and a place in society, which they don't have now. As a matter of fact that very word "place" is something which has almost disappeared from our language but you certainly remember from reading earlier fiction, no doubt, that people "knew their place" and had "place" and so on and kept their place in life, so on and so forth. That was deprecated by us in our individualistic type of democratic evolution but actually there is another side to it, because when people had a place in society, society had a responsibility to them which it does not have now. If you are not where you are expected to be now, nobody else is to blame except yourself. That was your station because the democratic way of life was that you were supposed to climb as fast as you were able.

Stieglitz: There are just two points that I think might be amplified. One is this question of assuming constancy in the intensity of emotional stimuli. I had the privilege of seeing a beautiful example of this in measuring the cold pressor blood pressure response two years apart on the same individual. In the intervening time this individual had been out ice fishing on Green Bay and experienced having the ice break into floes. Thus there had been critical jeopardy associated with cold until rescue was established. The cold pressor response on the second occasion was many times more violent than it had been in the first observation. This is an illustration of conditioning to a physical stimulus because of associations involved.

Then before we go on from here, Dr. Havighurst, item No. 3, implies that the quantity of interpersonal relations is directly proportional to personal adjustment. This conclusion or assumption I question most seriously, because there are many instances of high degrees of gregariousness with multiple interpersonal relationships

Havighurst: I suggest that I read the propositions for social policy, and you may want to comment on them.

PROPOSITIONS FOR SOCIAL POLICY CONCERNING INTERPERSONAL RELATIONS

If interpersonal relations are closely related to personal adjustment, it should be possible to state a number of propositions concerning social and economic policy which would increase the level of wellbeing of older persons in our society through improving interpersonal relations in later maturity and old age. Such propositions as the following might be examined critically for their validity:

1. In general, people should continue with their work as long as possible. (This proposition should be limited to those—probably the great majority of Americans—who achieve their sense of worth largely through their work.)

2. Elderly people should live in close touch with their children and grandchildren. (But weighing against this policy is the fact that a good many adults feel that they cannot live happily with their parents.)

4. Elderly couples should maintain their own homes as long as possible, though perhaps reduced in size from the homes of their middle age.

5. Recreational and social groups for older people should be encouraged in areas of in-migration of older people, such as the South and West

6. It is desirable to increase public approval and tolerance of a wider variety of social roles for older people

Hoskins: These theses are before you now for discussion.

Carlson: May I suggest that we eliminate the parentheses in proposition No. 1?

Havighurst. Eliminate all the material in the parentheses?

Carlson: No I subscribe completely that people should continue their work as long as possible, but I think it applies to all people. The philosophy of all people should be the necessity, the importance, the joy in work achievement.

Kuhlen: Why in point 2 would you limit participation of older people to groups of their own age? In contrast, such research as

a rainy day. A professor who has to give up teaching activities when he retires at sixty-five should have in reserve other interests such as music and philosophy. Furthermore, he should have developed these at an early age, not when he is faced with retirement. Then he can shift more easily. That seems to me to be one of the most important principles in the mental hygiene of preparation for old age.

Shock: Can he be taught to shift to activities such as hobbies prior to retirement? Can he shift to those activities which may or may not have social significance? Is that an adequate adjustment?

Malamud: I would say that would depend very much on whether social participation is important to that individual. There are some people, for example, as Amundsen, for whom social participation is not very important. He can live by himself much more adequately than you or I. The shifting must be performed when you can still do it by choice rather than from necessity. If I had to shift from tennis to golf because of getting older I could do it much better if I started playing golf at the age of twenty or twenty-one rather than at sixty-one.

Shock: I meant activities that had social significance for the community. I might enjoy stamp collecting for a couple of hours a week as a recreational activity, but at sixty-five I would shudder to think that all I had before me was sticking stamps in a book eight hours a day. In other words, so much of our attention to recreational activities seems to me to be away from the utilization of older people in socially significant activities. I think most people want to perform useful work. What we need most is reeducation to accept the concept that many socially important activities which may not have a monetary reward can be performed by the individual.

Malamud: That is tremendously important.

Fremont-Smith: If you were a good philatelist you would be organizing stamp collection clubs among the youth. Therefore you would be doing something giving you social satisfaction and improving your own stamp collection as well as helping a group of youngsters and giving them some participation. I suspect if you go at almost any hobby with the right viewpoint, you can make it socially useful as well as individually useful.

Hoskins: This freewheeling is very delightful and could go on indefinitely but I think it is time the leader began leading again.

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has been done on adjustment of old people (I am thinking of studies by Morgan and Landis) (7, 8) indicates that the better adjusted members of the population studied were individuals who had relationships with younger individuals, not necessarily their own children and grandchildren, as implied in your third point.

Havighurst: I think that is true. This is probably the point among the propositions which I have stated on which there is the least general agreement. My own judgment is that as we double the proportion of old people in our society in the next 30 years, we are going to find that fewer and fewer people will find it feasible to associate largely with people of all ages and that one of the great learning problems of older people in our society is going to be that of learning to associate with people of their own age.

Kuhlen: These propositions are of the order of recommendations. Does not this type of recommendation simply crystallize even more the notion that older groups have a particular role, whereas their adjustment might better be promoted by breaking down that role so that there is no such thing as a group of old people separate and distinct from society in general?

Hoskins: Miss Randall, do you not have some material on that?

Randall: I agree with Dr. Kuhlen. To accept this as a premise or hypothesis for the future seems to me to point in the wrong direction. I do understand Dr. Havighurst's reason for it, namely, that there is going to be the necessity for more association with older people as the composition of the population changes. However, to keep ourselves mobile and adaptable we need also association with people of other age groups. Association with one's age peers is quite natural and quite satisfying. With a higher proportion of people in the upper age brackets and with a natural tendency for this kind of association, it seems to me that effort should be directed toward promoting a continuation of association with people of all age groups.

We have found with our family groups and with others living alone that people who have kept in rhythm with life around them and not in segregated groups were more satisfactorily adjusted old people when physical need finally made segregation essential. I don't know whether we are right in that or not. However, having watched a group with whom I live right here in New York City, we believe they are much more normal because they continue to

participate in what is going on around them rather effectively and can withdraw for short periods but not entirely when life becomes too much for them. That seems to me the goal we ought to try to work toward.

Hoskins: There is one obvious difficulty which comes from the mortality tables. The individual who is destined to live ten years beyond his age group is going to be a very lonesome individual if he has not acquired methods of integrating with younger people.

Randall. Was it not Samuel Johnson who said that one should keep his circle of acquaintances in repair by making new acquaintances with younger people as one grows older? It seems to me that that is one of the things which we have observed in our small experiment in planned living arrangements for older people. One might also recall that Dr. Margàret Mead says that as she grows older she is going to make sure that her doctor, her dentist, her lawyer, and others upon whom she must depend in her later years are younger than she is, so that she will be certain of the right kind of service from people who know her as she is and as she has been.

Stieglitz Would you accept the idea that elderly people should be encouraged to make themselves socially desirable to all age groups?

Havighurst: I think you folks are talking from your hearts. I believe if you are going to be realistic about it you have to recognize that it will be more and more difficult for old people to associate with people of all age groups. But Nos. 1, 3, and 6 do indicate that to be desirable. I also say that the experience of old people is that when they finally do make the shift to associating with people of their own age, their adjustment improves a great deal.

Kuhlen Is that an hypothesis or do you have evidence?

Havighurst Consider the club known as the Fossils in Washington, D C They enjoy their association together. Or maybe they are people so well adjusted that they can accept their aging.

Kuhlen: That might well be a symptom of initial good adjustment rather than evidence that acceptance of this role *fostered* good adjustment.

Havighurst: I would not say that active participation in the group of older people is only a symptom of good adjustment.

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a foster grandchild and have the joy and fun that would accrue, to the benefit of both the child and of the older person. I think that with a little imagination quite a number of things could be developed along those lines if one could interest a community. We need to fight against the segregation that is going to take place automatically for social, economic, and political reasons, as well as for interpersonal reasons.

Shorr: A good example of that is the wave of interest in the graphic arts and painting which will sweep through a town bringing people together in a creative interest, which takes a great deal of energy and emotion and in turn brings a great deal of satisfaction. One sees whole towns that are swept by it, with the successful participation of all groups and all ages.

Kidd: I was wondering about the limitation of No. 5 to the South and West. Aren't more fully developed recreational and social groups needed everywhere? With regard to No 1, it seems to me that we had better be wary of setting patterns too rigidly. We have full employment now, but that may not always be so. In the event of heavy unemployment, older workers will be out of a job first, and undue concentration upon work as the most socially acceptable mode of life for older people may backfire in the form of effective demagoguery aimed at older people.

Donahue: I do not subscribe to segregation of old people, but I do believe they have a right to form associations among themselves in which they are free to function without the competition of the greater physical prowess of youth and without suffering the impact of the unfavorable attitudes so frequently expressed by young people toward the old. The old person is made to feel he has played his role in life already and must now step aside for youth. And yet the older person has earned and wishes to maintain his personal status. He wishes to continue to be active, self-sufficient, independent, and important. He wants to exercise his skills for [illegible]
ests and [illegible]
create a s[illegible] in which all of these needs may be satisfied and in which capacities may be exercised unthreatened by competition with young people.

Malamud: That is a very important thing. The only person whom I have ever seen correctly diagnosed as having involutional psychosis in the Army was a soldier of forty-two who came to Worcester. He had no particular physical defects, but he was a

Fremont-Smith: You don't mean exclusive? In addition to learning to adjust with people of their own age they should vigorously *maintain relationships with people of all ages.*

Kuhlen: That was my initial suggestion; the original phrasing is much too tight, and does not in my opinion give the proper emphasis.

Harrison: The teacher has as an essential condition of his professional work a great advantage with respect to association with younger persons. Personally, I have found it a tremendous benefit. If a man becomes a Methuselah without younger associates, he will have no friends at all left at the end.

Shock: I know of one instance where contacts between the young and old members of a group were encouraged. As you know, it is customary for church groups to be organized in terms of age groups. There is usually a young people's Sunday school class, middle-aged Sunday school class, breaking up on an age basis. About five years ago one of the pastors in a church outside of Baltimore decided that this system was all wrong. Consequently, he rearranged all the church groups on a chance basis, so that the older members of the congregation were put in the groups of middle-aged and even younger individuals. No one liked it at first but after two or three years of operating in this way everyone has come to like that arrangement much better than the previous grouping based on age categories. It seems to me that this represents something of a social experiment. It shows we are more or less forced into age categories by our cultural pattern.

Randall: During certain periods there are activities which you enjoy a little more if they are shared with other people of your own age group. I am thinking of the "time-bound" activities which Dr. Malamud mentioned earlier, which one would carry on in a group of age peers, but there are other types of activities which are enjoyed on the spread level. These would mean general activities which would be of the spectator or the nonparticipating kind.

Fremont-Smith: The sense of being needed as well as the need to be of service is very important for older people. Therefore, it is also important that there be opportunities to fill these needs. Beyond this, there is also a great loneliness for young people and for youngsters on the part of many older people. I would like to suggest that there could be developed in certain situations the concept of foster grandparents where people would take on a child as

or not? If you could make older persons secure socially would they be as conservative or would they now be willing to explore and take on new things? I believe we can get the answers to these questions as to why the older person is rejected.

Fremont-Smith: Don't we all know examples—and some right here—of older people who are not rejected and who are considered to be the life of the party and welcomed even by the younger people? I don't mean in every kind of a party. I am sure your point is so well taken and brought to a head by the fact that there are these examples of the people who are not rejected. Perhaps if we ask why they are not, it would give us a clue.

Cameron: That is a very sound point but that would be in specific roles.

Havighurst: May I ask that we spend the rest of our time now on the final topic which I asked you to assume we had solved?

THE MEASUREMENT OF PERSONAL ADJUSTMENT

A measure of personal adjustment is necessary for research on interpersonal aspects of aging, because good personal adjustment is the goal of life in old age, and it depends very much upon the quality of interpersonal relations of the individual

The definition of personal adjustment which will probably be most useful in this kind of research is one that will appear rather naive and superficial to the psychologist. It consists of two parts—a *subjective* feeling of happiness and satisfaction with life, and an *objective* set of behavior and relationships which is approved by the community in which the individual lives. The well-adjusted individual is one who feels happy and satisfied with his life and who is approved by his community

Such a definition would be less defensible if applied to earlier ages, because at these ages the concept of adjustment usually carries with it a promise of continuing good adjustment. Hence, there must be an inner harmony of personality and a growth toward greater maturity if the individual is considered to be well adjusted. For example, at adolescence we look for certain patterns of growth as evidence of good adjustment, even though these growth patterns may produce temporary conflict and unhappiness during adolescence.

In the later years of life it is the present which is the test of adjustment rather than the future.

man of forty-two who was caught in a group consisting entirely of boys in their early twenties. He was immediately nicknamed "Pop" and although he was physically fit, they always tried to spare him: "Don't let Pop do it"; "Wait for Pop; he can't walk as fast as we can; he can't march as fast as we can. We are going into town; we better leave Pop home"—and after about three or four months of that the fellow just simply gave up. I think it is important to appreciate where the possibility of competition comes in and where certainly it would be much better to deal with people at one's own level.

There was one other point that occurred to me. I think we ought to be careful not to project our own experiences and settings onto the general group. Practically all of us here are teachers and the prestige that we have as older people with young students is something altogether different from the relationship that the ordinary old man has with people who are intellectually at least his equals, but physically his superiors and younger in age. We may actually be flattered when referred to as the "old man" but our soldier certainly was not.

Cameron: I doubt whether we can answer this particular question of segregation or nonsegregation, or what kind of segregation is desirable until we have more facts in regard to the matter of rejection or acceptance of the old man by society. I think it is interesting that, with the exception of Dr. Malamud's passing statement here about his unhappy agitated depression, the whole group shrinks away from the fact that the older person is rejected in varying degrees, either overtly or implicitly, by the rest of the community. I think we should try to get facts as to why he is rejected. I wonder if part of this cannot be explained in terms of cultural lag where some of the rejection of older persons stems from a period of time when the older person simply could not carry on the kind of work that he had been doing beyond a certain age, because it was heavy manual work. Another reason might be that the number of jobs in an earlier period was limited. Now we are passing into a period, for better or worse, of so-called full employment. So there will be jobs.

The other point I wanted to make was this: One of the reasons why the older person is rejected is that he is suspected of conservatism, of holding up the works, so to speak. I don't believe we can answer what seems to be a crucial question without research. Is this conservatism derived from the individual's social anxiety

of himself, to be happy in the face of some disapproval? On questions of social policy, where we are dealing with broad groups of people, we must recognize that the sense of worth of a person depends a great deal upon what other people think of him. Therefore, I think the roles which a person fills must be generally approved if he is to be regarded as well adjusted.

I remember one man whom we also interviewed in a tavern. He had euphoria. He claimed that he was the best educated man in town. He also claimed he was the best salesman. He told stories about his business successes. On our instrument for the measure of his personal adjustment according to his own feelings (9), he rated fairly high; but it was obvious that the man was deluding himself, and about two months later he was put away in an institution because he was not able to take care of himself. He was an extreme case who had so deluded himself that it would no longer be realistic to say that he was well adjusted, and yet he regarded himself as a successful person.

Carlson: Do you not have there a case of incipient cerebral breakdown?

Stieglitz. He was both psychiatrically and somatically sick. Delusions, no matter how happy, do not constitute successful adaptation. Is there not need for far better control of the material studied?

Havighurst: There is variation but in general there is need for confirmation by the people with whom one lives.

DeVinney: Isn't much of the apparent variation in individuals' dependence on social approval really just differences in the groups whose approval they seek and respond to? Some people are sustained by the approval of quite small and select groups in the face of wider disapproval. But isn't it also true that in relation to the total population relatively few people depend for their approval on very small groups?

Carlson: I would agree with this. He has the term, "His whole community, the society in which he lives."

Havighurst: I think it is wisest for the purposes of research to use as our definition of adjustment something which includes social approval as part of the score.

Fremont-Smith: You don't want disapproval, so it is approval by at least some significant groups. If you brought in something

Accordingly, for a measure of personal adjustment it would seem satisfactory to get an accurate report of the individual's feelings of happiness and satisfaction in the several areas of his life, and to combine this with a rating of the extent of community approval of the social roles which he fills. While this is not altogether easy, mainly because some people do not or cannot report faithfully their own feelings about themselves, nevertheless it is easier than the measurement of personal adjustment at earlier ages.

Kuhlen: I would like to include here the thing you deliberately threw out, Dr. Havighurst—that the capacity for future adjustment and readjustment is one of the essential elements of good old age adjustment. I think the essence of what has been said this afternoon has been just that. An evaluation of the ability of the older person, your Yon Yonson for example, to readjust when stresses hit him is essential to an evaluation of his level of adjustment.

Havighurst: I am willing to take that as a test case. My own estimate of Yon Yonson's personal adjustment is that it is about average and it is cut down a little from average because of a certain amount of social disapproval, but it is not very poor.

Kuhlen: I should think that from the point of view of ability to withstand stress and to readjust he might be considered poorly adjusted. In other words, if you could get him into a few stress situations and see how he behaves, then he might be seen to be basically very poorly adjusted and this finding, one way or the other, would constitute important evidence for evaluating his total adjustment.

Havighurst: In the later years of life it is the present which is the test of adjustment rather than the future.

Kuhlen: I don't agree.

Randall: I cannot accept that.

Carlson: "The importance of approval by the community," you have that in two places. How important is that? May not the individual in some cases be so strong that catering to the community makes him unhappy?

Havighurst: This is a part of the general problem of the extent to which a person can be happy without having community approval. Can he be "inner directed," have enough direction inside

to be concerned with practical adjustment rather than with anything of an abstract nature.

Hoskins: It seems to me that a weakness of the work of this Conference from the time I have been connected with it, has been that the whole aspect of things referred to by Dr. Shorr, the religious or more often the theological approaches to these things, the values, the secondary values derived from the theological frame of reference, come in and by sort of tacit consent are never mentioned. Just why that should be an unmentioned subject I am at a loss to understand.

Fremont-Smith: I had in mind I think something closely related to spiritual values when I spoke of having goals which extend beyond the life span of the individual. Incidentally, just to toss in again on that, it seems to me that that process of extending the "time boundness," or the "time flow," of one's goals is the basic aspect of development of the child. The way we help a child to become more mature is by a progressive willingness to give up an immediate gain for a future gain which is better. It seems to me that ideally by the time we reach our teens we should all be identified with at least some goals that are beyond our lifetime.

One thing that impressed me was the period of the cathedral building in France, and I guess in many other countries, where it took three or more generations to build a cathedral and the whole community worked on it knowing that it would never be finished in one lifetime. I don't know all about the interpersonal relations that existed there, but symbolically that is the kind of thing we talk about: health structures, building for the health of the future. I believe right here we are concerned with the problems of aging populations in this country and other countries beyond the lifetime of any of us. This is all part of the same thing and part of using a different phraseology. I don't believe one would have goals beyond one's lifetime without something which was equivalent to faith. It seems to me that is a part of it

Carlson: That depends upon how you define faith. We could on the basis of present understanding of man and nature have that goal, factors in the better days tomorrow for [illegible]
for myself [illegible]
wo [illegible]
ha [illegible]

Aub: Courage, the person should have courage.

of that touch of relativity to it, would that not meet Dr. Carlson's point?

Carlson: My worry is that we put this down as something that that old person should work toward and that is not important. Be sure you are on the beam in what you are doing and the other will come or not come as a by-product. That is what I am driving at. I think you see what I mean.

Fremont-Smith: On the other hand, Dr. Havighurst is saying that the only way the average person can be sure that he is sure he is "on the beam" is when he receives approval from the community. That is probably true for the average. We would perhaps agree that what we would like to have is a larger and larger proportion of the people able to be self-sustaining in the sense of being sure they are "on the beam" and less dependent upon community approval. Isn't that what you are pushing for, more independence of judgment as to whether they are "on the beam" or not, and willing to fly in the face of disapproval, if necessary? I would like to add that the way in which you have stated it here is too close to being an equivalent to security, and it seems to me that we want a healthy degree of dissatisfaction in order to have adequate adjustment.

There is one other thing, the sense of being timebound. It seems to me that we would like to have our older people as well as our younger people identified to some extent with goals which are beyond their own lives. The moment they do so identify they are not as dependent upon current social approval for their actions. They have an inner drive wherein we would like to see some expression of dissatisfaction with the present status. It seems necessary to me that there be a balance between dissatisfaction with the *status quo* and adjustment. Now I am talking a little about ideals, if you like, but we need to have some ideals in our statement.

Hoskins: Did you find in your material, Dr. Havighurst, any example of people who take pride in being "cussed," being different, being the worst reprobate in the neighborhood? One can, of course, take pride in this, that and every other kind of manifestation.

Havighurst: Yes.

Shorr: Is it beyond the scope of this program to consider for the older group some plan to bring together those aspects in their lives that in retrospect and in contemplation of the future give it meaning? In other words, is there no faith here at all? We seem

substitute something which will in a large measure neutralize his sense of loss? If one can look back on a life well spent, about which one has no need to have any regrets, or if one feels he has done his duty, or has lived by a certain set of standards, that will make easier the acceptance of the transition into old age.

Frohlich: The ultimate of this would be the person who is deluded and in his delusion supplies himself with something which makes him feel better, at least for the time being.

Shorr: Do you mean that anyone who holds a spiritual value is deluded?

Frohlich: Not necessarily, but if I understand your suggestion, it is that we substitute, for the feeling that in old age we are less valuable and satisfied, an opinion or feeling that life at this time is more valuable. This may be contrary to the facts.

Shorr: I think I probably stated my position poorly. What I mean is that one should not anticipate that one can make old age equivalent to youth But in so far as old age brings certain inevitable penalties, could not these be blunted by providing a set of spiritual values, which in retrospect will supply to the aging person a sense of continuity with the past and the future, a sense of having participated to the best of his ability in the kind of evolution of society, of the family, of institutions, and of ideas. All of that would be embraced in what I have termed "faith" in the meaningfulness of life, and if properly achieved will tend to blunt what is apparently a period in which so many problems arise to which there is an effort to give meaningfulness in terms of associations with groups, in terms of club activities and what not. All these things indicate that this transition is regarded by most people as an unhappy state of affairs. My suggestion was to add something which has had its equivalents in the past but which we have lost since Darwin, and which perhaps can be added with benefit to a program of preparation for aging.

Carlson. May I ask a question? The person's satisfaction in having worked effectively for seventy years, do you call that a spiritual value?

Shorr: Yes.

MacNider: Certainly!

Carlson: That does not fit the historical meaning of spiritual value.

Carlson: And he should have the understanding, certainly good understanding and courage.

Fremont-Smith: I didn't introduce the word *faith*. I was saying that the thought involved in long-range goals to go beyond one's lifetime had some of the same spiritual values as those who used the word "faith."

Hoskins: It seems to me that the theological factor as such has to be considered because of its influence on social approval or disapproval. A given line of activities in a neighborhood dominated by an ethical culture would be one thing and the same line of activities in an area predominantly Fundamentalist quite another—the individual items would have grossly different evaluation. Depending upon the general area, cultural standards, the set of accepted values, social values, that sort of thing, would influence the interpretation, so I think it isn't scientific to be too squeamish about this aspect of human existence.

Frohlich: The problem of how adjustment is measured comes in here and this depends upon how well the individual satisfies his needs under given circumstances. Isn't this what we consider to be adjustment generally? One of these needs appears to be a certain amount of approval of the individual by the community. This varies with individuals and depends upon how much of this approval a particular person needs rather than on some absolute measure of how much acceptance is necessary.

As far as faith is concerned, a general prescription of faith or ideals of one sort or another seems to me to be hardly feasible. It may be fine for some groups and people, but not at all necessary or useful in some others. I am not sure even that the subjective sense of happiness which might come with faith to some people would be a good measure of how well he supplies his needs, or in other words of how well he is adjusted.

I agree with the suggestion of Dr. Kuhlen that how changeable or nonchangeable, how rigid or nonrigid a person is does influence the chances he has for adjustment. The older a person gets, the less elasticity he has generally, and we might almost say that he is likely to be well adjusted if he has a good deal of elasticity, or in other words, if he is not too old.

Shorr: Does not there run throughout this a feeling on the part of the older person that he is approaching something which is far less good than he has had? Is it not desirable, therefore, to

substitute something which will in a large measure neutralize his sense of loss? If one can look back on a life well spent, about which one has no need to have any regrets, or if one feels he has done his duty, or has lived by a certain set of standards, that will make easier the acceptance of the transition into old age.

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Shorr: Yes.

MacNider: Certainly!

Carlson: That does not fit the historical meaning of spiritual value.

MacNider: Isn't the difference between that kind of a value which I think is very definitely spiritual and what you would call a religious value? Aren't you confusing in a way the religious value with the spiritual value?

Carlson: It is the meaning of words.

MacNider: I think that the best kind of a satisfaction an old person can have is that of looking back on having done a pretty good job.

Kuhlen: I want to return to the two facets of adjustment mentioned in *Dr. Havighurst's statement*, personal adjustment and conformity to social approval, and suggest that it is not desirable to combine these two aspects of adjustment into a single score or *single evaluation. If conformity to social approval* is a significant factor in an individual's *personal* adjustment, then it will show up in unhappiness, in anxiety, or in dissatisfaction when his subjective *feelings are evaluated. Whether or not a person is conforming* socially, as viewed by others, is not part of his *personal* adjustment *per se.* This is not to say that such external evaluations are unimportant. As we all know, a person can be contented and happy, and at the same time a fit subject for a mental hospital. While both of these approaches to the evaluation of adjustment are important, they represent quite different evaluations which should not be combined into a single "score."

Stieglitz: I would like to ask Dr. Shorr a question. If there occurred a symmetrical emotional maturation paralleling the somatic senescence would not the need for substitution be largely avoided? Usually emotional development does not keep pace with somatic maturity, but if it did the need would not arise. Isn't the essence of the problem the asymmetry? Too often we see a physically senile organism with immature emotional equipment.

Shorr: I wonder whether a great deal of our difficulty does not stem from the industrialization of our society and the gradual regimentation of the activities of an individual who makes a part of a part of a part and loses all sense of personal identification with the whole. It was different when your labor went into the building of a cathedral which remained as your monument, humble though your place was. The individual today has so little to cling to as a symbol of the results of a life of hard work. It is becoming more and more difficult for the average member of society to arrive at the age period we are concerned with, with an adequate sense

of satisfaction for a life reasonably well spent, fortified by symbolized or actual evidences of what he has been able to make out of it.

MacNider: I have been wondering why the subject of faith has not been brought up before. Many people — young people, middle-aged people, and old people—have a deep interest which goes to the point of an abiding faith in the church. It means a great deal to these people over and above any theology which is supposed to be embraced by a designated church. Richard H. Cabot of Boston realized this He was largely responsible for starting the so-called Emanuel Movement, which might be substituted for the questionable attitude designated Christian Science. Many individuals needing a churchly influence as faith would come to him and finally wind up as a Christian Scientist. As a result of this organization, Cabot called around him a group of ministers from all the different theologies and asked them if he could refer such individuals to them. They were of course glad to see these people and were of tremendous value to them. I don't see why these ministers cannot give older people the benefit of some order of faith which is to be found in the church.

Havighurst: I simply close by pointing out that the concept of personal adjustment is basic in the study of old age. Since I doubt that people can agree on a definition of personal adjustment I think the best thing for the scientist to do is to make an operational definition and always to include this definition in anything he writes on the subject of personal adjustment in old age

MacNider. May I get back to all of this just one minute? All this day we have spoken about how to try to handle the emotions of human beings It is a very interesting thing that in all this discussion the name "church" has not arisen at all.

Fremont-Smith. No minister have we had in the group and the group as a whole should consider that for the future.

MacNider You can get a great deal out of a church and have powerful belief while you get it.

Donahue. From data collected in open-end interviews with old people in which they were free to express their feelings and their problems, we have identified seven different needs. One of these is the need for religion. It is a very nebulous and poorly defined need and has a very broad base; for some it means the church and church attendance, for others church plays *no part at all.* For the

latter group, religion is an expression of spiritual faith often related to considerations of an afterlife.

REFERENCES

1. WOLFF, H. G. Life situations, emotions and bodily disease. Chap. 24 in M. L. Reymert (Editor), *Feelings and Emotions*, McGraw Hill, New York, 1950, pp. 284-324.
2. WOLF, S., and WOLFF, H. G *Human gastric function. An experimental study of a man and his stomach.* Oxford, New York, 1943, xv, 195 pp.
3. MITTLEMANN, B., and WOLFF, H. G. Affective states and skin temperature. Experimental study of subjects with "cold hands" and Raynaud's syndrome. *Psychosom. Med.*, 1, 271-292, 1939.
4. JONES, H. E. The California adolescent growth study. *J. educ. Res.*, 31, 561-567, 1936.
5. JONES, H. E. Procedures of the adolescent growth study. *J. consult. Psychol.*, 3, 177-180, 1939.
6. MALMO, R. B, SHAGASS, C., DAVIS, J. F., CLEGHORN, R. A., GRAHAM, B. F., and GOODMAN, A. J. Standardized pain stimulation as controlled stress in physiological studies of psychoneurosis. *Science*, 108, 509-511, 1948.
7. MORGAN, M. Attitudes and adjustment of recipients of old age pensions. *Arch. Psychol.*, 30, No. 214, 1937.
8. LANDIS, J. T. Factors contributing to the dependency of rural old people *Rural Sociol.*, 7, 208-210, 1942.
9. CAVAN, R. S, BURGESS, E. W., HAVIGHURST, R. J., and GOLDHAMER, H. *Personal adjustment in old age.* Science Research Associates, Chicago, 1949, 203 pp.

THE RELATION OF GERONTOLOGY TO CLINICAL MEDICINE

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DR. HOSKIN'S insistence that I try to talk about some of the concepts of geriatric medicine is an extremely embarrassing one, as there is not a thing I can say that you all don't already know better than I do.

We all know what gerontology is, the science of aging. It was defined by Dr. Cowdry in his book, *The Problems of Ageing* (1). Back in 1941, a committee of this conference group, consisting of Dr. Cannon, Dr. Cowdry, Dr. Hastings, Dr. McKay, Dr. Oliver, and myself, divided the field into three areas: the biology of senescence, geriatric medicine, and the sociology of an aging population. This classification of the areas of gerontology has been followed through in the organization of the Gerontological Society. These three facets, which might be likened to the application of three perspectives to a single problem or entity, are so intimately related that they cannot actually be separated.

In order to comprehend any object we have to look at it not only with the naked eye but with the microscope, which is essentially the approach of the biologist who uses the cell as the unit of thought, and also with the reverse end of the telescope, which is the sociologic approach, in which man becomes a unit in a very much larger society.

To the clinician the unit of thought is the aging *individual*. In many respects geriatric medicine, or the application of gerontology, is not only the center of these three perspectives but it is also the hub, because fundamentally it supplies the motivation for research in the other areas. Man very rarely has anything but a selfish motivation in his efforts of investigation; the search for pure knowledge just for the sake of knowing is, theoretically, possible, but I think it is extraordinarily rare. Most of our efforts are made because we're interested in how this knowledge may be applied to man, using man in the generic sense. Geriatric medicine is a part of the whole. It can perhaps be defined as that area of medical practice and research pertaining to aging men and women in both health and disease. It is not limited, thank goodness, to the

management of problems of the senile. If it were I think that interest, motivation, enthusiasm, and study would be negligible, for it would then be an exceedingly sterile field. The senile are the end product of senescence. In many respects the two decades from forty to sixty constitute the most intriguing part of clinical geriatric medicine. If we can accomplish the construction and/or the maintenance of good health in the positive sense of health being both mental and physical in these two decades, our anxieties anent the later years should be greatly reduced because most of the problems which beset us later have at least become manifest, though not necessarily conspicuous, during that time.

It is important to keep in mind that the clinician has two related but somewhat different problems to struggle with. He has the individual and he has the type of disorders which commonly beset this individual. It may be pragmatic then to discuss first some of the significant characteristics of the aging person and, second, the significant generic characteristics of the commoner disorders of later maturity. The third facet of the problem, as was pointed out today, is that man does not exist in a vacuum all by himself, isolated in space. He exists in a variable external environment and must maintain an extraordinarily complex internal milieu within rather narrow limits to keep healthy.

There is no point in attempting any recapitulative summary of today's discussion. I think that is definitely beyond any one of us as an individual.

First, what are the most significant characteristics of senescent people from the clinician's viewpoint? I think the most important concept to keep in mind is that they are *different*, that aging in the chronologic sense and also aging in the sense of accumulated experiences involve change. I believe we can draw a fairly close parallelism between progress in geriatrics and in pediatrics in that pediatrics made its great advance when it was realized that the child is something different from "the little man"; that the child is not just a diminutive man, but presents immunological, nutritional, psychological, structural and physiological characteristics peculiar to the age, or the degree of development of the organism. Changes occur in the psyche, both in intellect and in emotions, in structure, and function, including homeostatic functions, chemistry, immunity, nutrition, in social orientation, in the family, and outside. It is characteristic that these changes are insidious, progressive, and asymmetric. I mean that they do not pro-

gress at the same rate in all functional capacities and structures of the organism. As a result we often must deal with an individual who may be sixty years chronologically, but biologically is eighty in some respects, forty in others, thirty in others, twenty in others and ninety in others. He is not of any uniform age throughout. The obvious and oversimplified illustration is the man with the old heart and young ideas, and the difficulties that this discrepancy gets him into. He tries to play tennis too long and therefore gets into difficulty.

In many respects, from the clinician's point of view, it is this internal asymmetry or lack of uniformity in the changes of aging which is the most trying and intriguing part of geriatric medicine. If we can ever determine why certain structures show evidences of deterioration more than other structures in one man, and in another man there are other structures which depreciate, I think we will have some of the fundamental clues to what actually happens in aging. The causation of the asymmetry may reveal to us the basic processes of aging.

Secondly, the clinician must constantly keep in mind the tremendous individual variations which occur. This is much greater in old than in young persons, probably because the proportionate ...

... experiences have been. Of course, as said this morning, no two individuals live identical lives. They have intoxications, fatigues, infections, traumata, exposures, and experiences which are different and which, if coincidentally they should be identical, certainly vary in sequence and severity of the disorders. The sequence of disorders makes a considerable amount of difference in the later effects therefrom.

Just to illustrate the importance of sequence and its consequences on the biological organism, let us visualize an ...
who ...

... influenza with its concomitant damage and then superimposed upon that damage undergoes a pregnancy in 1919. These are the same ...
quence and they ...
physiology and ... rather simple example, but we can make up as many as we want to. Each one of these experiences leaves a certain amount of scarring. The result is an accumulation

of injuries. Many of these injuries are not apparent at first but as they accumulate they become increasingly significant. It is almost impossible, and I think Dr. Oliver has stressed it here before, to distinguish normal and pathologic senile tissues. The study of "normal senility" is one place where it is almost impossible to transfer experimental laboratory studies on animals to man, because man does not survive avoiding many things that we can avoid with the animals.

The pediatrician has a perfect right to assume, for practical purposes, that when he sees an acutely ill child all the manifestations of disease can be attributed to the recent acute disorder and that previously the child was essentially well. At the other end of the life span we must assume precisely the opposite. In an elderly individual, acutely ill, showing symptoms and signs, manifestations of disorder, we don't know which of the phenomena are due to disease or how many of these can be attributed to the acute disorder and how much can be attributed to preëxisting disorders which may have been exacerbated by the acute illness or stress, or which may have been there before but not detected. This is one of the reasons why it is extremely valuable to the clinician to have baseline observations of an elderly individual when he is acutely ill, so that he may evaluate how much of the symptomatology is attributable to the acute situation in contrast to how much preexisted. Many times chronic, long-standing illnesses are first discovered coincidental to the appearance of an acute disorder. Not infrequently in an acute infection we discover a diabetes mellitus, which had been asymptomatic previously, but the febrile state produces an exacerbation of the diabetes, lowering the sugar tolerance, and thus producing symptoms which lead to the identification of the diabetes.

In that connection, it is rather interesting to note that at the National Health Assembly held in Washington two years ago this coming May, the section on chronic illness and the aging process, for the first time, so far as I know, emphasized that the existence of chronic illness did not require awareness of the illness, nor did it require as part of its definition any degree of disability (2). Chronic illness can and often does exist without awareness of it by the individual. In most instances study of chronic illness has been the study of chronic disability or partial disability. The definition as applied to chronic illness there emphasized that awareness of the disability was not a necessary criterion to the existence of chronic illness. All previous statistical studies of incidence of

chronic disease are based on cases obviously ill, or disabled. As these various reports (including those on cancer incidence) omit the immense number that don't even know they are ill, I felt it important to mention it.

All the cumulative injuries that we have mentioned alter the effectiveness of the organism, the degree of the individual's health, his response to stresses. I would like to reëmphasize briefly, what we said earlier: namely, that sources of injury, psychological traumata, fears, anxieties, intoxications, fatigues, infections and the like are not necessarily wholly detrimental, but that they are also potentially beneficial. There are definitely profitable by-products, as for example, in the development of immunity following infection. Certainly, even a minor affair like a childhood vaccination to smallpox, where the child is sick and may run considerable fever, with cloudy swelling of tissue parenchymata, leaves a small residuum of permanent damage. But this price is minor compared with the immunity to smallpox. I like to tell my patients that the *only* thing you get for nothing is nothing and if the profit is much greater than the price paid, it is worth paying the price.

Another illustration of the ambivalent character of experience mentioned this morning is that we cannot develop courage without experiencing fear, nor can we properly develop an adequate digestive system during adolescence unless there is sufficient hunger to cause the individual to eat such awful stuff as red hot tamalies, ice cream cones, hot dogs, all mixed up with a little soda pop, Coca Cola, and all put down the hatch together. Insulting the gastrointestinal tract encourages it to develop vigor in handling food in later life. In other words, *a certain amount of insult is necessary for the development of vigor of the individual.* This morning it was pointed out that there is a need for faith. I would like to add that there is also a need for hate. Certainly we must hate with vigor and enthusiasm such things as Nazism. Unfortunately there are a great many aging individuals who brag of their tolerance when their tolerance is nothing more or less than indifference. Tolerance implies understanding and active participation in the correction of situations, but indifference is frequently called tolerance. This is an error which we must be careful to avoid in our own senescence.

Thirdly, the clinician is very much aware of the lowering of homeostatic efficiency in the senescent individual. No details are necessary here. We all know that the so-called physiologic con-

stants, such as body temperature, glucose concentration in the blood, chloride, calcium, and other blood constituents are extraordinarily constant whether at six or sixty.

When the ability to maintain these equilibria depreciates both in vigor and promptness what are the clinical consequences? In *the first place, conditions of stress produce less vigorous reaction;* symptoms of disease are less conspicuous in the older individual. To illustrate, there occurs less fever in the presence of infection, less swelling, less redness. This is one of the reasons why it is not at all uncommon to see individuals in the seventies or early eighties who make no particular complaint until their collapse brings about an examination and the discovery that they have a ruptured appendix. Their early symptoms were negligible: slight tenderness which they attributed to having some gas or having eaten too much. We must rely much more on the subtler evidence of disorder than we do in dealing with diagnosis in childhood, where disturbances are great and reactions are violent. After all, the symptoms of disease are not due to injury. They are due to reaction of the organism to injury and this reaction is very much less violent in older people.

Secondly, these older people do not tolerate other stresses well. Functional capacity may break down in the presence of stress. We illustrated that a few minutes ago by pointing out that in an acute infection the diabetic's tolerance falls to a point where hyper-glycemia may intervene, whereas previously in the same individual his tolerance was adequate to maintain a relatively normal blood sugar level. Also, it implies a slower repair time and thus the necessity for longer convalescence. Long convalescence does not necessarily mean complete bed rest, but indicates more gradual resumption of activities. It takes considerably longer for the older individual to come back to his previous level of health after injuries, infections, intoxications, and similar conditions. This need for time for repair is probably one of the main reasons why illness frequently leaves unnecessarily severe consequences. Certainly this is true of the virus infections. In my experience, the patients who have gotten into really serious difficulty with cardiac, vascular, and/or renal damage following influenza, were the ones who had more ambition than sense and got going too soon. These frequently suffered recurrence of their disorder. There is no time saved by not taking adequate time for convalescence in the first place.

The lessened margin to stress is extremely important in geriatric surgery, for dehydration, the lowered hemoglobin content,

variation in blood chlorides are of serious moment to the elderly. Their poor tolerance to hot weather is well known. I can not recall a single summer in the last fifteen or twenty years that I have not seen from one to ten older people suddenly collapse in the midst of a hot spell. This collapse is representative of a very abrupt shock, frequently with loss of consciousness. The old man may have had breakfast, told his wife he was going upstairs to lie down for a few minutes because he did not feel well; and by the time the wife comes upstairs after washing the dishes she may find the old gentleman in profound coma on the bed. These are essentially instances of chloride loss beyond the tolerance of hemostatic equilibrium. The majority of these cases recover promptly if taken care of quickly by intravenous administration of fluids and chlorides. Why does hot weather affect older folks more than youngsters? Partly because their tolerance to these deviations from the norm is less, and partly because their tolerance is more likely to be exceeded. These older individuals are creatures of habit. We are all creatures of habit but their habits are much more rigidly fixed than ours in that they don't increase their salt intake when hot weather comes. A young person is very likely to compensate for sweat loss with salt. I can recall that when my daughter was two years old and there occurred a hot spell she was offered pretzels. All day long, she begged for "Pretzels, Daddy" When it turned cool her pretzel pestering ceased The older individual does not modify his diet to compensate for changes in the weather, because he is rigid in his habits. Thus he is likely to get into difficulty. Forewarning does help to prevent these dangerous episodes

Habits are an extremely important problem to the clinician. Habits may be good, bad, or indifferent Clearly, habits are created and become fixed by repetition over a period of time Therefore, fixation of habits is an integral part of aging change. It isn't aging *per se* which fixes habits It is repetition over a long period of time of habits of thought, eating, exercise, and sleep. Dr. Carlson pointed out in his paper (3) that one of the major obstacles in getting people to eat properly was their dietary habits and the difficulty of overcoming them. Habits are extremely important in the etiology and treatment of the common diseases of later maturity. There is great hazard in attempting to induce abrupt changes of habit in older individuals. This applies to habits such as tobacco, alcohol, coffee, and work. Today, we discussed the hazards of abrupt retirement. This is an abrupt and violent change of habits, for working is a habit, too. I have seen violent withdrawal symptoms

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diminishing tolerance for all the barbiturates and for bromides. Barbiturates frequently make the elderly person confused, unsteady, fuzzy, and therefore anxious over the fuzziness and confusion. This defeats the original purpose of the sedation. On the other hand, the elderly show an improved tolerance and margin of safety for nitrite ions, nitrates, caffeine, opiates, and a somewhat increased tolerance to alcohol. There is, of course, a great deal of individual variation in tolerances and these generalizations are hardly justified.

Of clinical nutritional problems that we have to cope with, the most common and important are the role of both good and bad dietary habits, the question of inadequate water intake, and the question of calcium balance. It has recently been demonstrated that older persons require greater intakes of calcium to maintain positive calcium balance than do young adults (5, 6, 7). Many older people—and I am speaking now of the seventy-five year or more group—resent drinking milk because they feel its prescription is an accusation that they are babyish Habits are hard to alter, but with patience they can be modified gradually.

Habits are particularly significant in connection with caloric intake. Despite the reduced requirements, due in part to a falling basal metabolic rate and in part to diminishing physical activity, habit often maintains intake at a constant level. People who are accustomed for years to eating just so many slices of toast at breakfast tend to persist in this habit.

Thus obesity is the more common problem, at least during senescence, than is undernutrition. McCay, as you recall, in his studies of the nutritional status of patients in the mental hospitals of New York State, found that the *per capita* consumption of bread, particularly among the aged inmates, was actually higher than the *per capita* consumption of bread in the U. S. Navy. Instead of trying to change the eating habits of the patients, which would be very difficult if not impossible, McCay (8) set out to change the character of the bread, making it more adequate by the addition of skimmed milk and soya flour. Selection of food is affected by dentures or the absence of teeth and by atrophic changes in the gastrointestinal tract. Obesity is much more frequently a problem in the senescent than it is in the senile. The obese do not become senile, with rare exceptions. They do not survive (9).

In senility not infrequently we are faced with a problem of anorexia, often psychogenic in origin. In such instances two simple

in coffee addicts. One Scandinavian lady who got in the habit of drinking about thirty-five cups of coffee a day was operated upon and went without coffee for five days. On her fifth postoperative day she went into a profound state of shock. The surgical resident and the medical resident and all the rest of them wondered why. There was no evidence of embolism. Why the sudden collapse? The idea suddenly occurred to us that she had not had any coffee since she was operated upon. We asked Mrs. Swenson, "Have you had any coffee since you were operated on?"

"Oh, no."

Two or three cups of black coffee and she was all right. There are withdrawal symptoms in these habitués if changes are abrupt.

Discussing caffeine habituation reminds me of the story of the old man in the hills of the South who was reputed to drink from fifty to sixty cups of coffee a day. One of the coffee companies thought they could get some publicity and sent a reporter to interview the gentleman. He found him asleep on the porch and woke him up. "Are you Mr. Smith?"

"Yes, my name is Smith."

"Are you the man who drinks fifty to sixty cups of coffee a day?"

"Ah reckon I do."

"Do you find it keeps you awake?"

"It *do* help *some*."

Habitués must not be made to change their habits abruptly. It is even worse with the second generation. Sons of habitués are a rigid lot indeed. The nonmedical but wise philosopher, Mark Twain, pointed out that a bad habit is like an unwelcome guest and is not to be thrown out the window, but coaxed downstairs one step at a time.

The older person's reaction to drugs is somewhat different from that of younger individuals. Unfortunately, we know far too little about these variations. There is need for comprehensive toxicological and pharmacodynamic information in relation to age. The existing knowledge is so meager we deleted the chapter dealing with the pharmacology in later years in the second edition of *Geriatric Medicine* (4). Our clinical impression is that there occurs a

diminishing tolerance for all the barbiturates and for bromides. Barbiturates frequently make the elderly person confused, unsteady, fuzzy, and therefore anxious over the fuzziness and confusion. This defeats the original purpose of the sedation. On the other hand, the elderly show an improved tolerance and margin of safety for nitrite ions, nitrates, caffeine, opiates, and a somewhat increased tolerance to alcohol. There is, of course, a great deal of individual variation in tolerances and these generalizations are hardly justified.

Of clinical nutritional problems that we have to cope with, the most common and important are the role of both good and bad dietary habits, the question of inadequate water intake, and the question of calcium balance. It has recently been demonstrated that older persons require greater intakes of calcium to maintain positive calcium balance than do young adults (5, 6, 7). Many older people—and I am speaking now of the seventy-five year or more group—resent drinking milk because they feel its prescription is an accusation that they are babyish. Habits are hard to alter, but with patience they can be modified gradually.

Habits are particularly significant in connection with caloric intake. Despite the reduced requirements, due in part to a falling basal metabolic rate and in part to diminishing physical activity, habit often maintains intake at a constant level. People who are accustomed for years to eating just so many slices of toast at breakfast tend to persist in this habit.

Thus obesity is the more common problem, at least during senescence, than is undernutrition. McCay, as you recall, in his studies of the nutritional status of patients in the mental hospitals of New York State, found that the *per capita* consumption of bread, particularly among the aged inmates, was actually higher than the *per capita* consumption of bread in the U. S. Navy. Instead of trying to change the eating habits of the patients, which would be very difficult if not impossible, McCay (8) set out to change the character of the bread, making it more adequate by the addition of skimmed milk and soya flour. Selection of food is affected by dentures or the absence of teeth and by atrophic changes in the gastrointestinal tract. Obesity is much more frequently a problem in the senescent than it is in the senile. The obese do not become senile, with rare exceptions. They do not survive (9).

In senility not infrequently we are faced with a problem of anorexia, often psychogenic in origin. In such instances two simple

little tricks are very helpful. It is most important that food be made easy to eat. Secondly, the elderly do better with small frequent feedings rather than on large meals served less frequently. I am sure all of you know of instances where a patient has rejected a squab but eaten a hamburger, because it is just too much work to pick the meat off the squab. The hamburger is ground up, and all the patient need do is shove it down. The labor involved in the consumption of food is extremely important as a factor for some of these individuals.

The more common nutritional defects seen clinically in older individuals are deficiency in protein, iron, calcium and water intake. The need for water is increased by age in several aspects. Particularly important is a diminishing ability of the kidneys to concentrate the urine. When the ability to concentrate the urine is reduced, the organism must make a large volume of urine in order to get rid of metabolic debris. With a maximum urinary specific gravity of 1.010 or 1.014 the 24-hourly volume must be twice as great as with a specific gravity of 1.024 to 1.028 if the same amount of solute or metabolic debris is to be excreted. The older person is commonly deficient in renal concentrating capacity. Consequently, the habitual fluid intake is a vital factor in geriatric hygiene.

The relation of hypercholesterolemia to a high fat diet is still too new and too uncertain to justify elaboration at the present moment, but it is a concept with considerable interest and potentialities in preventive geriatric medicine.

May I digress for a moment, and discuss some of the psychological factors which we must deal with in the nonsenile aging individuals? I recall that it was pointed out this morning that personality characteristics do not change fundamentally in normal aging individuals, but that the personality pattern becomes intensified. A popular and easy way of saying this is to state that the leopard does not change his spots or the tiger his stripes. The spots or stripes get blacker with age.

I think some of our psychometric tests used to test the ability to learn and to measure memory have given most misleading results. There are other variables which must be given consideration. For example, the obvious depreciation of memory is greatly affected by the intensity of attention, the level of interest, and the acuity of perception which is often impaired. We may say Smith has a poor memory; I met him last night at a dinner party and he does not remember me today. In the first place my name was

mumbled to Smith. He did not hear very well and therefore did not catch it. His glasses were dirty, as is usual, and so he did not see me clearly in candlelight. His failure to recognize me was not due to a poor memory but because he did not see me clearly in the first place. It was lack of perception, lack of interest (because I was just another name and another face) rather than forgetfulness.

The question of accuracy versus speed in memorizing in relation to age is most interesting. Dr. Carl D. Camp, of the University of Michigan carried out an illuminating experiment. Selecting two groups of university professors (presumably reasonably "normal" people) one aged sixty to seventy and the other thirty-five to forty-five, he asked them to memorize a nonsense paragraph. In order to test memory rather than understanding, he wanted the material to be sheer nonsense. Camp told me he quickly found such by lifting a paragraph from a political speech. He found that the older men, in reporting back their memorized paragraph had taken longer to memorize it, but made far fewer mistakes (Personal communication). Now which group had the *better* memory? Can we speak of a better or worse memory in *contrasting* more rapid acquisition with a higher percentage of errors, or slower acquisition with less errors? We are very careless when we speak of changes such as these as being "better" or "worse." They are not better or worse. They are different. One pattern of memory might be better for certain purposes and worse for other purposes. Such characteristics should be given consideration in employment and in placement of individuals. The old adage that you cannot teach an old dog new tricks has done immeasurable harm because it has offered the most magnificent alibi for indolence on the part of the old: "I am too old to learn therefore I need not make any effort." This falsehood is an insidious and malignant virus.

Apprehension regarding insecurity not infrequently increases with advancing years. I would say that financial insecurity is not the major anxiety but that anxiety in relationship to loss of prestige and status in the family is more significant. The fundamental tragedy of the old person is *not stiff* joints, aching bones, limitations of activity, but awareness of uselessness. Uselessness is not all due to failure on the part of the individual, as we discussed earlier today. An important element in the pathogenesis of uselessness derives from what society imposes upon him in severe restrictions in his opportunity for usefulness.

There are many borderline instances in which we see the old

individual, December marrying May. The usual assumption is that, when an old man marries a woman thirty, forty or even fifty years his junior, he is marrying to prove his virility and she is an unadulterated gold digger. This assumption is more often false than correct. Every marriage involves three ties or relationships: the mate-to-mate bond, a mother-son relationship, and a father-daughter interdependency. Normally these three threads, like the motives of a musical composition, weave back and forth with first one and then the other in the ascendency. Let us not forget that many of the December-May marriages are consummated because the girl is looking for a father and the old man for a daughter. Having a daughter is one technique for being useful again, of being needed. Every human being needs to be needed.

The question of testamentary capacity of older persons is often extremely difficult. Is this individual competent or is this individual not competent? Those are not easily answered questions. Search for the answers should be undertaken before gross errors have taken place, and then the whole thing threshed out with a lot of nasty name calling in probate courts at a later time. Yet adult children are very hesitant to call in competent medical consultants to determine an old man's testamentary capacity at a time when he is writing his will. I think it would be setting a good example if all of us, when we revise our wills, would ask some competent psychiatrically oriented physician if he thinks we have testamentary capacity. By setting such an example we could point out this is not "bad" but wise and thus teach by example, avoiding a lot of difficulties for others.

It is well known that confused, more amented than demented, older individuals with cerebral arteriosclerosis frequently exhibit a paranoid attitude toward their children. They are suspicious. They are resentful. They are often very bitter. This attitude of suspicion is frequently revealed by an accusation that their son or daughter has stolen something when it is only mislaid in their confusion. It is typical that this attitude of suspicion is directed primarily against those one would assume to be nearest and dearest. It is not entirely invalid. There are many such instances. The old person's concept that the family is waiting for him to die and get out of the way is often perfectly true But the family cannot admit this, even to themselves. The younger generation, in all innocence (which is synonymous with ignorance) insist that grandpa's or grandma's "mind is going" because of these accusations. The paranoia is obvious to any clinician. Less obvious, however, is the fact

that the paranoid attitudes are often not nearly as unrealistic as the sincere sanctimonious platitudes of the adult children.

Whenever we see a patient over seventy we know that we have two or three patients to deal with, only the others don't know it. There can be no question but that families are disturbed by the burden of caring for and maintaining a senile relative. We frequently see the phenomenon of acute and abrupt overcompensatory oversolicitousness on the part of the family because of a feeling of guilt over the wish that this obstacle in the path of happiness were out of the way. This wish is classified as "bad" by our culture. Thus they overcompensate by being oversolicitous and the older person is often aware of the phenomenon and not nearly as paranoid as some of the family would like to think.

There are certain predictable psychic trauma which occur during senescence which I think are worthy of mention. These are *largely predictable stresses and as they occur to the majority of* [illegible]

[illegible] stresses tonight, but by pointing out some of the implications of one or two of these potentially hazardous experiences I hope to show you what I mean. First, and most obvious, of these traumata is loss of children. This is a very common problem for a woman whose children grow up and leave home as they [illegible]

[illegible] This is certainly a predictable trauma It is equivalent, in many respects, to the loss of job on the part of a man. It is a form of retirement. Bringing up these children was the job of the woman. It is gone. Unfortunately, in most instances, this loss of purpose, loss of significance in the family, loss of being meaningful to the community and household, occur coincidentally with the climacteric and the climacteric has been a tragically convenient diagnostic wastebasket. Too often it is assumed that anything that happens to a woman between forty and sixty is due to her change of life and many of the real implications have been completely missed because of that convenient wastebasket.

I have today under observation a woman of sixty-four who is now unfortunately going through her fourth climacteric because of estrogenic therapy for the other three. She has to begin all over. Her problem, however, has nothing to do with the loss of her

individual, December marrying May. The usual assumption is that, when an old man marries a woman thirty, forty or even fifty years his junior, he is marrying to prove his virility and she is an unadulterated gold digger. This assumption is more often false than correct. Every marriage involves three ties or relationships: the mate-to-mate bond, a mother-son relationship, and a father-daughter interdependency. Normally these three threads, like the *motives of a musical composition*, weave back and forth with first one and then the other in the ascendency. Let us not forget that many of the December-May marriages are consummated because *the girl is looking for a father and the old man for a daughter*. Having a daughter is one technique for being useful again, of being needed. Every human being needs to be needed.

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know when it is going to stop. It may go on and on for many years. I have known one instance in which a patient, aged eighty-two, the mother of Mrs. X, fell and broke her hip and the doctor said, "She is so frail and feeble there is no particular point in trying to pin her hip. She won't last more than a few months." This happened when she was eighty-two. She was a bedridden invalid in that house until she was ninety-six, when she finally died. Just stop to think what it means to take care of a bedridden invalid for fourteen years, seven days a week, twenty-four hours a day!

Those are some of the problems which we are up against when practicing geriatric medicine. There are many others. The elderly must face the loss of contemporary friends, loss of prestige and family, economic security and health. These are all predictable traumata. Let us recall the hoary adage: forewarned is forearmed.

May I take a moment to point out some of the significant characteristics of the major diseases which we see in these older people? Older people are not immune to any disease. One winter I saw seven cases of mumps in grandmothers, acquired from grandchildren. But the so-called degenerative diseases are the most common and serious of the disorders that we have to deal with. I personally prefer the term "chronic progressive disorders of later maturity" to "degenerative diseases" despite the cumbersome nature of the phrase. These disorders fall into four major groups: circulatory disorders, metabolic disorders, malignant new growths, and the arthritides. A much simplified classification shows some of the more pertinent relationships of these disorders:

A. Circulatory disorders

1. Chronic infective myocardial disease
   (a) Rheumatic
   (b) Luetic
2. Hypertensive arterial disease
3. Arteriosclerosis
   (a) Cerebral: apoplexy
       dementia
       encephalopathy
   (b) Coronary. cardiac disease
   (c) Renal: chronic nephritis
   (d) Pancreatic: gangrene
       Buerger's disease
4. Combination forms

children. She never had any. She was a retired school teacher, never married.

Earlier today we remarked about the importance of the role of the wife in retirement and the fact that when the man retires she, in many respects, has a much more difficult job of adjustment than he does.

Loss of parents is another predictable trauma. One might assume that to a middle-aged senescent adult the loss of parents would not be a profound shock. This is perfectly true of a so-called normal person, but there are few of us who are normal. I have in mind a man of fifty-one, holding a very responsible position in a government department, unmarried. He lived with his mother. To quote him: "*His mother needed him.*" When she died, age eighty-three, he went completely to pot and required institutional care. He became a violent schizophrenic. He had rationalized for years *that his mother needed him, but in truth he needed his mother.* Thus in apparently normal and quite capable individuals of forty to sixty, the loss of parents can be a most significant trauma, if the patient is asymmetrically immature. This asymmetry is the crux of the problem, in my opinion. We must be alert constantly for situations in which chronologic age, somatic fitness, intellectual maturity, and emotional infantilism coexist. Asymmetry in maturation is the rule.

By way of contrast the question of the excessive survival of the parents is much more important. This is an immense problem, national in scope: the large number of partially infirm, handicapped, aged individuals living with their children. This is an urgent question before the nation as a whole. Too few people are *as yet fully aware of it. We hope to increase their awareness of it. When should parents leave home? The damage done to the middle* generation by the protracted residence of a senile, infirm, truly useless person in the midst of the family is great. The younger generation is hog-tied and feels cramped. They cannot go out. They cannot have friends in. The psychological damage is immense. One sees it all the time. Unfortunately, one of the worst hurt victims *of this type of parasitism is the maiden aunt. Many* of the married daughters and sons escape it. They have the responsibility of their own children. The career woman did not marry. Mother can keep house for her as she pursues her career and then she can take care of mother foreverafter. The tragedy is that these people never have a determinate sentence. They don't

know when it is going to stop. It may go on and on for many years. I have known one instance in which a patient, aged eighty-two, the mother of Mrs. X, fell and broke her hip and the doctor said, "She is so frail and feeble there is no particular point in trying to pin her hip. She won't last more than a few months." This happened when she was eighty-two. She was a bedridden invalid in that house until she was ninety-six, when she finally died. Just stop to think what it means to take care of a bedridden invalid for fourteen years, seven days a week, twenty-four hours a day!

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4. Combination forms

B. Metabolic disorders
   1. Diabetes mellitus
   2. Anemia
   3. Climacteric; female and male
   4. Gout

C. *Malignant tumors, all forms*

D. Arthritides

Of these, the first two groups, the circulatory and metabolic disorders, are preëminently important. They are so intimately related that attempts to separate the consequences into distinct and isolated disease entities are futile. It may be worth while to consider briefly some of their generic characteristics, for these affect practice and research alike.

In the first place, their causation is obscure. The etiology of all these diseases involves cumulative, multiple, variable insults often operating over a long period of time. This is in sharp contrast to the causation of disease in youth which is usually relatively singular, recent, and obvious. Secondly, these disorders have an extraordinarily asymptomatic onset, often existing and progressing for a long period of time without any disability or awareness of symptomatology, and, therefore, considerably advanced before being identified. Their course is chronic and progressive, frequently inducing long disability prior to death. And instead of conferring any degree of protection, as we sometimes see in cross-immunity to infection, they increase the vulnerability to other related disorders.

The implications of these characteristics are first of all, delay in discovery or diagnosis. Secondly, their progression to a long period of disability creates a complex and serious social problem. The profound obscurity of their etiology greatly handicaps preventive as well as curative therapy. Both prevention and cure are predicated on removal of etiologic factors.

The symptoms of these disorders are indirect indicators, not direct. For example, arterial hypertension or arteriosclerosis produce no direct symptoms of the vascular lesions. Hypertensive disease has no symptoms or signs directly associated with the increased arterial pressure other than the readings obtained with a sphygmomanometer. Functional symptoms arise secondarily in this or that or another structure. It is relatively accidental whether in the arteriosclerotic disease the acute break, producing symptoms,

occurs in the coronary vessels, in the cerebral vessels, in the extremities or in the pancreas with the development of the late type of diabetes. We must assume that if we have evidence of severe secondary failure in one area there also exists impairment in other areas. It is not pleasant that those of us who have had coronary inadequacies must also recognize that almost certainly some cerebral arteriosclerosis coexists in the same individual.

Apparently, there exists a common denominator in the genesis of most of these disorders. They induce parenchymal injury by one of four methods, perhaps more than one at a time: (a) inadequacy of cellular nutriments; (b) ineffective transport; (c) inefficient utilization; or (d) inadequate removal of the metabolic debris. Cardiovascular disorders do damage to cellular nutrition either by impairment of supply, transport, including removal of catabolites, or utilization. Impaired utilization of nutriments is best illustrated by the ineffective utilization of carbohydrate in diabetes mellitus.

The problems of geriatric medicine and those of chronic illness overlap in many areas but are not identical. Most of the data we have regarding incidences of chronic illness in relationship to age and ...

... illness was the cause of death of 52 percent of males and 55 percent of females, but that in 1945 chronic illness, in contrast to acute disorders, accidents, homicides, and all other factors, accounted for 79.8 percent of all deaths among males and 83 percent of all deaths of females. More than three-quarters of deaths today ... These shifts ... population. All th... that between maturity and ultimate death there is a longer and longer period of partial but progressive disability. There is a tremendous social and economic difference between a man quickly dead of pneumonia, and a man partially disabled by an arthritis or a cardiovascular accident, surviving twenty years thereafter as a personal, family, and community problem. The Committee on Chronic Illness made a conservative estimate that there are approximately 25,000,000 people, or one-sixth of the population, carrying significant degrees of chronic impairment of health; that approximately 7,000,000 show appreciable disability; and that about 1,500,000 are so-called invalids requiring constant attention and care. We cannot now dwell on the social-familial-economic implications of the relationship of chronic illness to aging. I refer you to an article on medicine in an aging population (10).

I would say that the essential features of geriatric medicine from the clinician's point of view are: (a) As much understanding as possible of the physiology and psychology of normal aging individuals and the many changes which are consequent upon aging; (b) an immense amount of patience to listen, to consider many details, to be extremely thorough in his search for subtile depreciations of health and to follow even the slightest lead which may lead into many blind alleys but will ultimately pay off; (c) the physician must never forget that his problem is not the treatment of disease but of a human being. Older people don't have a "disease." They suffer from a number of disorders of metabolism and circulation which impair their efficiency. The idea of a single diagnosis on a mature individual, that there is just one thing wrong, simply does not make sense.

The philosophy indoctrinated in all medical education for the last several centuries is that the functions of the physician are to discover, identify, and treat disease. To my mind, this is a false and unfortunate doctrine. The function of the physician should be to attempt at restoration of the health of the individual and the treatment of the individual rather than the treatment of diseases as entities. I would say the last, but by no means the least, attribute required for success in dealing with older people, is for the physician to have an incurable disease himself. My own chronic, incurable, and progressive malady is an incurable optimism. It comes in handy!

DISCUSSION

Cowdry: This is a provocative statement and like all of the others is open for discussion and for contradiction Won't somebody disagree with him please?

Fremont-Smith: I would like to bring up a contradiction in terms which I think came up this morning. We said that the aged individual tended to have a failure to maintain homeostasis or had less adequate homeostatic control. That seemed to be generally accepted, although perhaps the evidence for it was not too good. Now we are told that the aged do not react so much. For example, they do not run as much fever during infection. I think these statements are contradictory because if there is no reaction to an infection, then one might very well argue that better homeostatic control is maintained in that the process which would in a younger person

raise the temperature to 103 only raises it to 101. I believe one could argue against that because the overall statement is too general and it will not hold as a generalization. We have to specify what homeostatic mechanisms are not adequately maintained and which ones are perhaps better maintained.

Stieglitz: I stand pat on what was said this morning, it is sound. True, the reactions to injury are less prompt and less violent, but if one takes as a concept that fever is part of the defense mechanism, then the failure of the older individual to respond with fever is a diminishing defense mechanism

Fremont-Smith: Then you would argue that a man who had a temperature of 105 was really showing a homeostatic control where it is obvious he has a failure of homeostatic control of his temperature regulation? What I am trying to say is that the statement is too general to be meaningful. Two or more things at least are happening with a person with a fever and one of them is a sacrifice of one form of homeostasis for the maintenance of another and therefore I think that we are going to have to be more specific in order to describe adequately the difference between the homeostasis in the older person and in the younger. I emphasize this because I am inclined to think that there is something very crucial to our understanding of normal aging, in our understanding just what happens to the intricate and interlocking homeostatic mechanisms.

Carlson: It is very difficult to differ with a speaker who presents the fundamentals as factually as Dr. Stieglitz has done I have just one comment and that is this—obviously the understanding of the mechanism of aging may lead to some kind of prevention, so that if we are to die like the failure of the "One Horse Shay," preventive measures must be started much earlier than forty, fifty, sixty, or seventy. For that reason our fundamental research problems in the field of aging fuse with the fundamental reseach in general medicine.

Stieglitz I heartily concur with that, Dr. Carlson. I left out one part of my notes for the sake of brevity, because there is always the risk of being accused of being senile and garrulous yourself, when you get to riding your own hobby horse. Of course all diagnostic studies are primarily for the purpose of treatment. Fundamentally, therapy is the only objective which the clinician has. Our objectives in therapy in clinical medicine have changed. Twenty-five years ago or more there were three simple, conventional objectives of treatment. They were cure, palliation, and pre-

vention of specific disease entities. These were the only objectives. To that we have added at least one more and, I feel, should add another. We have had to add the objective of control. Curiously there is no adjective "controllative" that I can find in any dictionary. Yet I think that we all know what we mean by "controllative" therapy, illustrated by the management of myxedema, the control of diabetes mellitus with insulin, the treatment of adrenal insufficiency, and similar problems.

Cowdry: I don't see why you need "control" as an objective. You have considered therapy.

Stieglitz: I am talking about therapeutic objectives. Controllative therapy is not curative. You don't expect to cure. But it is certainly more than palliation. It is a rehabilitation to the maximum for that individual.

Aub: Substitution therapy.

Stieglitz: It may not necessarily be by substitution; it might involve withdrawal. How about the control of hyperthyroidism with thiouracil or propylthiouracil?

Shorr: Restoration of previous tissue states.

Fremont-Smith: Restorative therapy.

Stieglitz: But it has to be continued.

Fremont-Smith: Yes.

Stieglitz: Let me continue. There is still another therapeutic objective. I am sure that this is what Dr. Carlson had in mind. There is something more than *prevention of specific disease,* immunization, vaccination, and control of environment. We may attempt the *construction of greater health,* because health is always relative and never absolute. This is what the pediatrician has done. But there has been relatively little or almost no activity in health construction for adults, either individually or, on a larger scale, collectively. For example, the health constructive activities of school medicine in relationship to the child and the education of the parents in proper dietetics have not been applied as yet by industrial medicine in increasing the health and vigor of employees, although the relationship of industrial medicine to adults very nearly parallels the relationship of school medicine to children. The potentialities of accomplishment on the part of industrial medicine have not as yet been developed, but there exists great opportunity. Isn't that what you had in mind, Dr. Carlson?

Carlson: Yes, quite, Dr. Stieglitz. However, what I had in mind specifically was: What are the factors apart from heredity that lead to hardening of the arteries and hypertension? We do know that heredity is a factor in some diseases as for example, diabetes. If heredity is the primary factor in other disturbances of the body that occur in old age, their prevention poses grave social problems but we should not take such a pessimistic view until we have done everything possible to see whether there are nutritional, infectious, or environmental factors operating in these diseases as well We have guesses. We have made little progress. I think *fundamental geriatric* research should fuse with fundamental medical, biological research. You cannot study the old person alone.

MacNider: That is exactly correct, Dr. Carlson. So much of the tissue change which we can observe in aging is an end reaction. It is a result of chemical changes, perhaps existing over many years, that have finally reached such a point of physical modification that we are able to recognize them. We do not know anything about the sequence of events of an intracellular chemical order in any tissue which finally leads up to and expresses itself in those changes which, taken collectively, we can call the morphological changes of aging. I do not think we will get as far as we would like in geriatric considerations until we are able to know something about the intracellular chemistry of different tissues at different age segments If we knew this, we would have our feet on something basically solid. More than likely many of these changes of a degenerative order within cells are dependent upon the rapidity and the completeness with which oxidation-reduction changes take place within such cells. I can think of no type of research which would be more significant than a study of different tissues at different age periods by the use of the Warburg apparatus and related techniques which would enable the investigator to inquire into the rate and the completeness of oxidation-reduction changes in such tissues

Cowdry: I can tell you why it cannot be done. One of the reasons is that people are not interested in studies on aging. A recommendation was made by Dr. Carlson's Committee of the National Research Council to do exactly what Dr. MacNider is advocating and it was a recommendation based upon very mature study by his committee. You can plan a really good program but you cannot get it financed. If we look over the country we find I think that the fundamental work being done on aging is rather meager. I believe very strongly that in our studies on gerontology we have

to do a public relations job. Another difficulty is, of course, that the human being has a long life span. We cannot live long enough to do any experimentation on the human species; we have to work with animals.

MacNider: With a few exceptions I don't know where this order of basic research in aging is being carried on. There is an abundance of work on the end results of aging but only in two or three cases—and I am looking at two of them—do I know where basic fundamental biochemical research is going on. If we knew something about the cellular chemistry of senility, we would also know something about the chemistry of youth. What we are doing is terribly interesting but we are not getting anywhere because we have not any basic understanding of it.

Simms: I would like to comment on what Dr. Cowdry said about the necessity of selling the public on the necessity and desirability of doing basic research on aging. That was very true a few years ago but the situation is changing with the increased support of research on the part of the U. S. Public Health Service through the Research Grants and Fellowships Division of the National Institutes of Health. As you know, there was a Gerontology Study Section which has now been disbanded and has been replaced by a Gerontology Advisory Committee. Five of the seven members are here at the table and I think the Committee is already sold on the desirability of basic research such as that of which you were speaking. One of the functions of the Gerontology Advisory Committee is to encourage research on the problems related to aging that are not receiving adequate attention, and while we cannot guarantee that the applications will be approved, we would be very glad if all those who have ideas for research in the field of gerontology would submit applications for consideration. It will be helpful in submitting such applications if you will let the Committee know. We would also appreciate being informed about other projects that you feel need support.

MacNider: Where can one get in touch with the Committee?

Simms: A statement about the Committee together with a list of the members has been published in the Journal of Gerontology (11).

MacNider: In my opinion the biggest setback that gerontology had was the dissolution of this Study Section. Gerontology had been given a place of justifiable dignity by the National Institutes

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are dealing with a considerably larger number of projects than we did before.

Cowdry: When you find a project that has this slant, what is the next move?

Simms: When the Gerontology Advisory Committee finds a project which it considers to have an important bearing on gerontology, a representative of the Committee submits an appraisal with appropriate recommendation to the respective Study Section indicating the relation of that project to gerontology. However, since these appraisals go to the Study Sections rather than to the Councils, the Committee has no assurance that final decisions are based upon the relation to gerontology rather than to the specific interests of the Study Sections. The Committee can present general recommendations to the Councils and also can make contacts with investigators.

Fremont-Smith: May not the Committee make recommendations in terms of policy to the Council? This is a particularly important long-range, potent aspect of the Committee's work.

Simms: That is how the Council should deal with these problems.

Fremont-Smith: Yes

Shock. One other important consideration is that the Gerontology Advisory Committee makes recommendations to the Council with respect to priority ratings. There are now more projects received and approved than there are funds to cover, so that a priority list for payment of funds has to be drawn up The recommendations of the Gerontology Advisory Committee are taken into account in the drawing up of the priority list.

Shorr: May I be allowed to say a few more words about the evolution of the Committee? The old Gerontology Study Section was limited to considering only a limited number of applications, many of which dealt with geriatrics rather than gerontology. Our usefulness was correspondingly limited, since we were not in a position to select from the entire list of applications those which might bear on the field, but merely to act on those which were assigned to us.

Cowdry. Gentlemen, we have to continue this conversation later. Now we want to round out our discussion by giving Dr. Stieglitz two minutes in which to summarize.

those come under geriatrics rather than gerontology. So I think that we can turn what looks at first glance as if it were a tragic mistake into a really advantageous position if we work hard enough at it.

Cowdry: It is good to hear that slant of the situation. I think that the members of the Advisory Committee are the best advocates that you could find for attempting to get this basic work on aging properly launched, and with the knowledge of what is contained in all these applications they have a view into the situation that nobody else possesses.

Now then it is necessary on top of that to have the energy to do a great deal of pushing to put it across.

Simms: There is a limit to what we can do and we appreciate coöperation from people on the outside who can let us know about projects that need encouragement.

Fremont-Smith: Or that could be oriented toward gerontology because I think that is almost more important than just to find projects that need support in the field of aging. Basic projects should be oriented toward the problem of aging.

Cowdry: That is exactly what happened in cancer. In cancer there was developed a National Advisory Council and people working on fundamental problems in many parts of this country discovered that the work they were doing was considered of great value to cancer research. It was a surprise to some of them. They found further that the government was eager to support these studies, which was welcome news.

Simms: Mr. Chairman, may I add some figures by way of comparison of the field of influence of the Gerontology Advisory Committee as compared with that of the Gerontology Study Section? The Study Section had under its province about twelve to fifteen applications, or projects, which were receiving support.

Fremont-Smith: Each year?

Simms: Each year, yes, some were continued and renewed from year to year. The Advisory Committee has recently gone through six hundred and forty-five applications which are now under consideration at the Council meetings this month and that represents about a third of the year's applications. Of those six hundred and forty-five applications we have selected one hundred and eleven of them as having a bearing on gerontology, hence we

living like the "One Horse Shay." The best advice in the world is not worth a damn if not followed. I am delighted that we will go on tomorrow discussing this question of motivation as it varies in senescence, because it is certainly vital to the progress in the clinical care of individuals.

REFERENCES

1. Cowdry, E. V (Editor). *Problems of ageing.* Williams & Wilkins, Baltimore, 1st Ed., 1939, xxx, 758 pp
2. The National Health Assembly. *America's health. A report to the nation.* Harper & Bros., New York, 1949, pp. 82-112.
3. Carlson, A. J. Some obstacles in the path toward optimum diet. *Science*, 97, 385-390, 1943.
4. Stieglitz, E. J. (Editor) *Geriatric medicine. The care of the aging and the aged.* Saunders, Philadelphia, 1949, xiii, 773 pp.
5. Kane, G. G, and McCay, C M. Calcium requirements of old and [illegible]

8. McCay, C M What the consumer should know about bread. *J. home Econ.*, 41, (4), 179-181, April 1949.
9. Stieglitz, E. J. *The second forty years* Lippincott, Philadelphia, 1946, x, 317 pp.
10. Stieglitz, E J Medicine in an aging population. *Med. clin. N. Amer.*, 33, 295-308, 1949.
11. Simms, H. S The gerontology Advisory Committee of the National Institutes of Health *J. Geront.*, 5, 72, 1950

Stieglitz: I am afraid we digressed from the original objective, possibly because that objective was not attained. I thought the nonclinicians might gain a little something by a realization of the obstacles to the application of gerontologic knowledge. In most instances—I know of no exceptions so far—by the time we see the mature adult with his problems, it is too late to do anything about his individual heredity, sometimes quite a little too late!

There is no question, as Dr. Carlson emphasized, that the triad of facets of the problems of gerontology is not only theoretically but pragmatically related. Certainly the more we know about the biology of senescence, the more intelligent can be the application of clinical geriatric medicine. The more clinicians learn about the potentialities and limitations which exist in aging men and women, the more sound information can they give the social scientists with regard to sociologic problems. The more the social scientists make the public at large aware of the urgency of these problems, the more funds will be available for research in the basic sciences and the circle becomes closed. However, we must not forget the inevitable pragmatism of the source of revenue. In seeking funds for research into fundamental problems this question will be asked by those putting up the money: "How can this be applied to me, to my family and my children?" Perhaps there should be parallel emphasis on research as applied to man, while fundamental researches are going on simultaneously. We have not time to wait. These people are clamoring for answers, guidance, and advice. We need to do the best we can, *now*.

I think there is one facet which is particularly significant from the point of view of prevention, as emphasized by Dr. Carlson. With children the primary objective of preventive medicine is the prevention of illnesses whose origin is from without, exogenous, and where control of the environment may prevent them, as proper sanitation prevents typhoid fever. With mature adults we are dealing with an entirely different problem, in that these degenerative disorders are, so far as we can tell now, largely endogenous. Prevention here involves initiative and effort on the part of the aging individual, not only to seek guidance but to follow advice. The citizen of New York, or any other civilized community, makes no individual effort to have clean water and clean milk. The individual who is attempting to control his or her obesity can rely, not on the sanitation department, but only on his own self-discipline, effort, and initiative. The question of motivation, of will to make that effort, is vital if we are going to accomplish the objective of

classified in the above mentioned syndromes, nevertheless tend to interfere with the adequate adjustment of the individual or may be precursors of distinct mental disease. When we survey the reported statistics, however, we find that adequate data are available only in the case of the most serious of these syndromes, namely, the psychoses. Furthermore, even in this group the statistics are limited to conditions that have been diagnosed as such, mainly in persons who have gained admission to hospitals for mental diseases. We do not have reliable data in the case of the psychoneuroses and psychosomatic conditions and practically none at all concerning the problems occurring in the general population of that age group. And yet common experience indicates that the latter constitute the great majority of such problems. It is justifiable to assume that a proper foundation, for even a purely statistical and descriptive evaluation, would require an inclusion of all of these conditions.

It is true that even with the above limitations, the facts that are known indicate certain promising lines of investigation. During the last thirty years, there has been a remarkable increase in the incidence of senile psychoses and the psychoses that are associated with arteriosclerosis. This increase has manifested itself, not only in actual numbers and not only in proportion to the general population, but has exceeded the proportions that would be expected from the increasing number of old people in general. It is also important to note that this increase in incidence has become particularly striking since 1936. The first question that confronts us is what are the causes of this increase. Naturally, one thinks first of all of the fact that there are proportionally more people of forty-five and over today than there have been in years past Thus, it is reported that during the last fifty years, the life expectancy in the state of New York has advanced from forty years to sixty years This, however, does not explain why the increase in the incidence of psychoses should be out of proportion with the general increase in each age group. Obviously, certain other factors must have been introduced which caused an absolute increase in the frequency of these disturbances. It is furthermore likely, although it is not an established fact, that a similar disproportionate increase in frequency may be true of the other psychopathological disturbances for which statistics are not available. It is obvious than answers to these questions would depend upon an understanding of what the factors are that are most important in the causation of personality disturbances in this age period.

PROBLEMS OF AGING: PSYCHOPATHOLOGICAL ASPECTS

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IT IS understood that the purpose of this presentation is primarily the indication of existing problems and of possible areas of investigation which could lead to the solution of these problems, rather than a statement of facts or solutions that are already available. The need for such a presentation and the relative ease with which it can be made are enhanced by the fact that our recognition of the existence of these problems far outweighs available knowledge and its application to the understanding of the problems of aging. There is, of course, an accumulation of data in this area just as in others in the field of gerontology. They are, however, primarily matters of observation and statistical computation and comparatively little is known concerning their implications, their mutual interrelationships, and the manner in which they can be practically utilized in dealing with the problems. In fact, as we survey the currently known facts and the investigations that are in progress at this time, we find that what we have learned so far adds to, rather than subtracts from, the complexity of the subject and continually brings up new and unanswerable questions.

We can start out with the most reliable of these data, namely the statistical reports of the incidence and the description of the psychopathological phenomena observed in this age group (1, 2, 3, 4). We are confronted here, first of all, with the fact that both the validity and comprehensiveness of these findings are not entirely satisfactory. Logically we should include here all of the recognized personality problems that occur in this area. We usually start out with the most striking disturbances that are observed in the form of psychoses, such as the presenile, involutional, senile, and arteriosclerotic. We then come to the psychoneuroses, psychosomatic disturbances, psychopathies and other character deviations that are characteristically observed in persons after the age of forty-five. It is, furthermore, important to include here the much more frequently occurring psychopathological conditions, which are found in so-called normal old people and, although they are not

of these conditions at such an early period of life and furthermore, that the process is not only precocious in these cases, but also its rate is accelerated.

When Alzheimer (9), Simchowicz (7), Fischer (5) and others first described the pathological change occurring in senile dementia, they, of course, described them in people who had senile psychoses, because that is all the material they had. They were working in hospitals for mental diseases, and all they had were pathological specimens. When they found these very specific and characteristic senile changes, they naturally assumed that these were totally responsible for the disturbances in behavior. There occurs a degenerative change in the brain and since the brain is the site of personality functions, that was sufficient. For a long while nobody thought of the importance of comparing the brains of normal old people and those who were psychotic. Gellerstedt (8) after that actually studied a series of old people who were normal mentally and emotionally but who died from somatic disease such as pneumonia or perhaps following an accident and found that similar changes can be demonstrated in normal people. The question still remained to what extent this may be a question of relative severity and several people have started to work on that phase of the problem. Some time ago my associates and I undertook the following examination. We obtained twenty-four brains, twelve from psychotic patients who had been at Worcester State Hospital for some time. Most of them were cases of simple senile dementia or presbyophrenia, which are the two most characteristic senile psychoses The other twelve brains were of so-called normal people. One of them was a college professor. We took sections of various parts of the brain, mostly frontal and temporal lobes, but also other parts in which changes occur and stained them. The slides were marked in code so that I did not know whether they were from the normal or pathological cases. I graded each group of 24 sections in terms of the severity of senile plaques in a given field, pathological changes in the cells, areas of devastation, and so on

Carlson: The slides represented corresponding regions of the brain?

Malamud: That is right I was supposed to divide them into three groups, very severe, moderate, and very mild; and when I was finished I found as many brains of the normal old people amongst the very severe group as I found of the very sick people

Investigations during recent years have brought out a number of facts in regard to the possible causes of such disturbances. But in the case of each one, they have also led us into further queries that await future research, if they are to be useful as a solution to our problem.

In the first place, we have the results of a long line of neuropathological studies. We know that certain specific gross and histological changes occur in the senile and presenile psychoses (5, 6, 7). Atrophy of the brain, as well as of other tissues, senile plaques, specific cell changes, areas of devastation and vascular pathology have been demonstrated in people suffering from senile psychoses. Similarly, specific blood vessel pathology with concurrent tissue changes have been demonstrated in psychoses with cerebral arteriosclerosis.

Since it is also observed that fairly characteristic disturbances occur in the personalities of these people, it seemed logical to assume that the former were the sole reasons for the occurrence of the latter. Further investigations, however, of a more systematic nature have shown that: (a) similar changes, both qualitative and quantitative, are found in old people who do not show the types of disturbances that occur in the psychoses (8); (b) that in some people who manifested marked personality disturbances the neuropathological changes were minimal. We can, therefore, at most assume that the neuropathological disturbances may be just one of a series of causative factors and that other causes will have to be looked for to supplement these.

Even with this assumption, we are faced with another question as to what the causes of the neuropathological disturbances may be, since it must be taken for granted that they in themselves are only effects of more fundamental causes. Here, for instance, we ask the question of what are the causes of such conditions as Alzheimer's disease (9). In this disease we find a rapidly progressing deterioration which seems to be an acceleration of the senile process psychologically and neuropathologically. Further- [illegible] at an age when the person is chron- [illegible] Several such cases have been reported in the [illegible] decades. A case reported by Dr. Lowenberg and myself (10) had its onset at the age of fifteen. One could reason here that in these cases certain processes occurred at an early age, which usually do not start until later. In other words, that nature in most individuals prevents the development

least correlated with, his personality before he had the disease than it was with any pathology that could be found in the slides.

Fremont-Smith: One of the findings was that the slightly paranoid individual developed paranoia when he got paresis. Isn't that the kind of example you had in mind?

Hoskins: The grandiose sort of person would be grandiose in his disorder

Malamud: It is really not that so much. In the first place, let me make one suggestion which may not be quite valid, and if it is not I hope the histologists here will correct me, to the effect that it may be that the mental pathology of general paresis is not so much dependent upon destruction of brain tissue as it is upon vascular disturbance. We know, for example, that what malaria and the hyperpyrexia do is to affect the inflammation around the blood vessels rather than the lesion of the nerve cells. If we examine some of these cases who happen to die after treatment, we find that is where most of the effect takes place. I believe that what we are dealing with is a faulty circulation, and particularly a faulty exchange of substances between the blood stream and the brain tissue. That was also shown by our studies on permeability concerning which Dr. Fremont-Smith and I have had a great deal of discussion But nevertheless there is no question that the permeability of the blood vessels in general paresis is increased as compared with that of normal people or even that of seniles. It is possible that it is in that area that we should search for the mechanisms of some of the pathological conditions of the brain.

Another fact which you didn't mention and which I think is much more important in relation to general paresis is that when we study brains of people who die from general paresis without treatment and examine them and try to correlate the psychopathological changes with the severity of the process, either vascular or parenchymatous, you don't find any direct correlation. It is true that a person who does not show any kind of pathology at all in the brain will not have general paresis, or at least, we do not know of any such cases. But it is also true that there is no "one to one" relationship between the severity of the personality disturbance and the severity of the pathological process [illegible] all kinds of atypical [illegible]
paresis and [illegible]
severe and [illegible] brain is very slight as compared with some where the people die almost asymptomatically, where

amongst those that showed mild changes. In other words, there was no direct relationship.

Fremont-Smith: May I introduce a further point in defense of your thesis? Doesn't the recovery from paresis illustrate the fact that psychopathological symptoms of a disease which we know a great deal about are obviously not due to the pathology which we see under the microscope? For example, in paresis there is atrophy of the cortical cells, which in the frontal lobes is quite diffuse. Spirochetes are also to be found. It had been assumed that the symptoms of paresis, which vary greatly, and the gross psychopathology of the disease, were due to the pathology that one can see. Yet you treat these patients with malaria or with penicillin—I will stick to malaria for the moment—they have a remission and they recover, and all their psychopathology, or 95 percent of it, disappears and they become again functioning individuals. I cannot say entirely normally but certainly the conditions by which you recognize paresis have disappeared. We know very well that there is the same atrophy in the brain of these patients when they are now in remission as there was before and the only interpretation that one can make, or that I can make, is that the symptoms of disturbed personality functioning are not due to the destroyed brain cells but are due to those cells perhaps surrounding the destroyed brain cells which are not dead but are malfunctioning, and which recover function after the treatment.

The point I want to make is that the problem is difficult by virtue of the fact that even in a disease which we understand as clearly as we do paresis the psychopathology cannot be related in any simple way to the lesions.

Malamud: That is very true.

Fremont-Smith: One last word; you said each time we got a new fact that problem becomes more complex. May I paraphrase that to say that each time we discover a new fact the initial complexity of the problem is more fully revealed?

Malamud: That is right.

Hoskins: May I further tangle the evidence, Dr. Malamud? A study was made at the Worcester State Hospital by Dr. Yorshis in an attempt to find some other valid correlations in paresis. He found his best correlation was with the premorbid personality of the individual. What kind of a crazy man he was going to be in the height of his paresis was more nearly determined by, or at

MacNider: I don't think I can add anything to what I said yesterday. It is interesting to watch or ponder on how we change and drift in our conception of disease. Go back and you see that Hippocrates made a large number of profound surveys, never superficial: the short, red-faced, pot-bellied individual; the flaxen-haired, flat-chested child with winged scapula, tuberculosis. Then it got to the place where we could do dissections and the anatomist said, "This level is different from that," and out of that type of observation the gross pathologists were born. Then came the microscope, which said gross pathology is all right but here are the things that make up the gross pathology, the microscopic changes in the unit cells, in the organs, and there to a great extent the pathologist has stuck ever since. The average pathologist is perfectly satisfied with the dead house, and he tries to explain what happens in life by observing virtually dead tissue. You see what I mean.

Malamud: I agree with you entirely.

MacNider: I don't think we will get very much further, and I believe this applies especially to aging. We have developed other techniques but we don't use them enough. Some have said, "Well, what is the difference in the presence of certain symptoms of the psychical planes?" Others have said, "What is the difference in the life of these cells, not in their death but in the life of these cells? What is the difference in the chemistry, the physical chemistry, the enzymatic activity of these cells which are expressed in terms of delusions and hallucinations or albuminous urine, or cancer, or what not?" The pathologists don't help us much there. They are satisfied with the dead house and that is not life.

In the biochemical study of cells, such as is being done by Professor E. S. G. Barron at the University of Chicago, we get people who are trying to study the enzymatic activity of cells in a regulated or changing environment as in life, and it is from such work that I think we are going to learn a great deal about aging.

Take, for example, this striking action that was worked out by the British, the anti-lewisite compound, 2-3-dithiopropanol (BAL) When this compound is introduced into the tissues it protects them against highly toxic agents such as arsenic compounds and mercury compounds, and even after those compounds have formed a molecular union with the chemical constituents of cells, the administration of BAL will take the toxic agents from those cells. This enables these toxic compounds to disappear

the diagnosis was made more or less on the basis of serological findings, and then you find an advanced involvement of the brain and yet not much sign of mental disturbance.

Actually we do not have to go that far afield to find examples. Take your lobotomies. You put an "egg beater" in the frontal lobe and churn it up and then you get instead of an increased disturbance of personality, a comparatively well functioning individual. The question is where does it all lead us?

Cowdry: I want to make the point which I think is evident, namely, that the microscopic examination of any tissue reveals very little concerning the physiological attributes of that tissue. Most of the attributes are beyond microscopic determination, such as permeability, irritability, and enzymic activity. I am sure that there must be in each living cell at least ten thousand different enzymes acting; but we feel that we are lucky we can demonstrate one or two. Furthermore, the tissue does not show "pathology"; tissue shows lesions. Pathology is the science of disease. Tissue *does not show the science of disease. That is misuse of the word* "pathology."

Carlson: I would second that, and then would raise the question: Would you not expect, if there is increase in permeability of capillaries, normal or better than normal function, and that it is pathology which is opposed to decreased permeability? You would expect impairment of function from decreased permeability. Now you have the reverse.

Malamud: Exactly.

Carlson: So we should be careful about putting causal relations there.

Fremont-Smith: You could have toxic material leak in. The impermeability of brain vessels is a protective mechanism to keep out things which are not good for the brain. So toxic material which could not get in otherwise could leak in.

It comes back to the fact that the pathology of personality in these conditions is due to malfunctioning living cells rather than the absence of cells which have been destroyed and permeability changes are going to influence the physiology of living cells, which is the point I want to emphasize. We have to seek, as Dr. Cowdry says and as Dr. MacNider pointed out yesterday, in terms of enzymes, for our pathology in living, malfunctioning cells.

MacNider: I don't think I can add anything to what I said yesterday. It is interesting to watch or ponder on how we change and drift in our conception of disease. Go back and you see that Hippocrates made a large number of profound surveys, never superficial: the short, red-faced, pot-bellied individual; the flaxen-haired, flat-chested child with winged scapula, tuberculosis. Then it got to the place where we could do dissections and the anatomist said, "This level is different from that," and out of that type of observation the gross pathologists were born. Then came the microscope, which said gross pathology is all right but here are the things that make up the gross pathology, the microscopic changes in the unit cells, in the organs, and there to a great extent the pathologist has stuck ever since. The average pathologist is perfectly satisfied with the dead house, and he tries to explain what happens in life by observing virtually dead tissue. You see what I mean.

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MacNider: I don't think we will get very much further, and I believe this applies especially to aging. We have developed other techniques but we don't use them enough. Some have said, "Well, what is the difference in the presence of certain symptoms of the psychical planes?" Others have said, "What is the difference in the life of these cells, not in their death but in the life of these cells? What is the difference in the chemistry, the physical chemistry, the enzymatic activity of these cells which are expressed in terms of delusions and hallucinations or albuminous urine, or cancer, or what not?" The pathologists don't help us much there. They are satisfied with the dead house and that is not life

In the biochemical study of cells, such as is being done by Professor E. S. G. Barron at the University of Chicago, we get people who are trying to study the enzymatic activity of cells in a regulated or changing environment as in life, and it is from such work that I think we are going to learn a great deal about aging.

Take, for example, this striking action that was worked out by the British, the anti-lewisite compound, 2-3-dithiopropanol (BAL). When this compound is introduced into the tissues it protects them against highly toxic agents such as arsenic compounds and mercury compounds, and even after those compounds have formed a molecular union with the chemical constituents of cells, the administration of BAL will take the toxic agents from those cells. This enables these toxic compounds to disappear

through the kidney. In other words, it is in this type of work where we can find out the chemistry of different types of life and I think this will lead to an understanding of a great many things.

Malamud: I appreciate your comments very much, for they clarify the point I was trying to make. However, in order to decide that it is the chemist or the psychologist or the sociologist who is going to discover the important factors, and not through gross histological anatomy, we have to prove to ourselves first that these structural changes do not show simple correlation with behavior and then we have to search for other factors.

Stieglitz: Are the data compatible with the generalization that the psychopathology may be related to intoxication of the surviving cell? You have shown no data incompatible with that concept thus far.

Malamud: There is nothing so far that is incompatible, but there is nothing that I know of at present that proves it.

Frohlich: Ultimately all life is dependent on the physical factors. There is no question about it.

There is another factor which we ought to consider and that is that the pathology or the manifestations of illness do depend upon our previous life. These memory traces and experiences must be physically based. If you give more or less equivalent doses of alcohol to the same person he will react differently under different circumstances, and people with presumably similar defects in intellectual function, if not actually with similar changes in the brain tissue itself, show vastly different pathologies.

Malamud: That is what I think we shall ultimately have to consider in the attempt to understand behavior.

MacNider: I don't know but what that past life does actually reflect itself in certain modifications of the chemistry of the cells.

Frohlich: It must.

MacNider: It must. Just one more word in connection with the use of the British anti-lewisite (BAL), its amazing action in mercury poisoning and in arsenic poisoning. Uranium nitrate injures the cells of the renal tubules and the injuries are of the same gross pathological and miscroscopic order that bichloride effects, yet the (BAL) 2-3-dithiopropanol has no effect whatever in uranium poisoning in either binding the toxic element of the

uranium molecule and preventing it from injuring such cells, or after these cells are injured, affording such a chemical attraction for this toxic element that it will unite with 2-3-dithiopropanol and be eliminated by the kidney. It is of no effect in uranium poisoning In other words, the toxic element of uranium, whatever it may be, unites with the same cells that bichloride unites with but through a molecular bond which is not the same that the bichloride uses and which cannot be influenced by the use of BAL. I think this work on BAL is not only of great practical significance, but it may serve as a key to open up many problems, problems, for example, of a degenerative cellular character which make their appearance in cells at middle age and later. In order actually to know about the aging cells, we have to become chemically conversant with the changed molecular status of such cells which enables them to bind molecules which in youth were not injurious, but which in age are capable of inducing such molecular alterations in cells that we designate these changes the chemical constitution of aging tissues resulting in an altered architectural or morphological state of such cells.

Malamud: May I just remind you that my thesis, limited as it is in scope, is concerned with the question that I asked: What is it that caused an increase in the incidence of these conditions? The question is whether new biochemical factors developed, or, perhaps new social and psychological stresses have come in. To continue with the discussion, I believe you will agree with me, with reference to what you said, Dr. Carlson, that the gross anatomical and histological changes which for such a long time have held sway in this regard, cannot be regarded as the most important factors. That is what I wanted to point out.

DeVinney May I raise a question here? How satisfied are you with the evidence about the increased incidence of these factors? There are at least two reasons for raising the question. One is the problem of improvement in diagnosis [illegible]
of [illegible]
m[illegible]
Th[illegible] has come out within the last year of a rather careful study made by the Rand Corporation, which offers contradictory conclusions (11). It argues that the best evidence, on the basis of that study, supports the conclusion that there has not been an increase in the rate; that there has been an increase in the incidence, but only proportionate to the population growth. This becomes apparent when both population growth and incidence are analyzed by age groups.

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conditions may prove fruitful in identifying the factors which are responsible for this specific tissue disturbance. We are faced, therefore, with two main questions: (a) What other causative factors should be considered in addition to tissue destruction? and (b) What are the causes of the tissue destruction itself?

When we come to consider the factors, other than the purely histological, a number of possibilities occur (12). In the last few years the possibility of metabolic and biochemical, particularly hormonal, disturbances have received a great deal of attention. Dr. Stieglitz will probably deal with these in detail in his discussion. There is no question but that the endocrine system particularly shows definite changes with advancing age.

Stieglitz: May I interrupt for a moment? The more rapid progression of the disease in the Alzheimer patient showing symptoms so remarkably precocious is a generic characteristic, is it not? In that whole group of disorders which we call degenerative (hypertensive disease, arthritides, and certainly malignant new growths), in so far as we can make any generalization based on clinical observation, we may say that *the younger the age of the patient at the onset, the more rapid is the progression, and the later the age of the onset, the slower the progression.* There are exceptions, of course, but there is usually very rapid progression in the young.

Malamud: Most cases of Alzheimer disease show first onset of symptoms as long as six, seven, or even eight years before the person dies. There are even remissions in Alzheimer's disease. The patient that dies in two or three years is not too common, at least in my experience I just was going to say this, however, that we might consider the fact that we begin to get old very early in life.

Stieglitz: At conception.

Malamud: As far as the brain is concerned we first see the changes in the plexus, which Von Monakoff and others considered as important in the development of senile changes. These changes in the plexus start at the age of twenty; certainly after forty and forty-five we find that most people show signs of the beginnings of the first so-called senile changes in the brain.

It is obvious that in most people the process is a very slow one. In the Alzheimer case, however, the change develops very rapidly and that is where I think that if we were able to investigate the conditions scientifically, there would be more of an opportunity to find the causes than there would be in the person in whom the

Malamud: That is a question of statistics, and they may differ, depending upon who compiles them. I personally go on the basis of experience. I came to Worcester State Hospital some ten years ago. I found a certain number of old people being admitted annually. The number has increased and now *fully a third* of the patients in the Worcester State Hospital belong to that group. Now as to diagnosis. It isn't diagnosis that brings a patient to a hospital, and as far as the population in general is concerned, the people who bring the old man or the old lady into the hospital do not know any more about diagnosis of senile psychosis than did people forty or fifty years ago. The fact that we diagnose them as one thing or another does not determine their being sent to the hospital. At the same time it is also true that no change in *diagnostic acumen relating to senile psychosis has taken place for* thirty or forty years. The diagnosis is made on the same basis, the same syndrome. There have been changes in diagnosis of some of the more subtle organic conditions and also in some of the psychosomatic conditions. As far as the senile psychosis is concerned, the same patient who was diagnosed as senile thirty-five years ago—and I have been in the field for twenty-five years myself—is diagnosed as senile today.

Fremont-Smith: There has been a change in cultural attitude and also in the size of dwellings, which is much more important than diagnosis.

Kidd: Plus larger budgets for hospitals so that a larger proportion of the senile appear there.

Fremont-Smith: It is difficult to determine the true cause of the increased age of patients admitted to mental hospitals. The very fact that we accept mental disease with more equanimity means that people are less ashamed to bring senile members of their families to the hospital.

Malamud: That is true, but we must also consider another factor, namely, that old age pension has worked the other way. Some people now keep the old person at home for a longer period just for the purpose of getting the money. I have known of cases where they kept them at home for several months, or even years, longer than they would have kept them otherwise just for that purpose.

I want to refer back to the pathological changes occurring in senile dementia described by Alzheimer. Investigations of such

Malamud: No, it must have existed for some time. There was no sign of acute illness, but there was the same type of chronic degenerative process that we find in all of these investigations of such conditions. However, just as in the case of the neuropathological changes, we cannot speak of a strict cause and effect relationship between the hormonal deficit and the psychopathological disturbance. This has been shown to be the case, for instance, in the involutional psychoses, especially in women (13, 14, 15). Some of our own investigations, as well as those of other workers, have demonstrated the fact that not only is there no direct correlation between the severity of the endocrine change and the psychoses, but that the latter may occur years after the former has taken place. Recently an investigation was started at the Worcester State Hospital of persons at various stages of development—patients and normals at the ages of twenty, thirty, forty, and up to ninety (16).

Carlson: When you say patients, what kind of diseases did they have?

Malamud: As far as the old people are concerned, senility; as far as the younger ones, schizophrenia. Comparing schizophrenics with normals brings out some rather interesting facts. That question was raised yesterday. The data have not been published yet but reports have been made to the Public Health Service on it. In reaction to stress a definite decrease is found in the function of the endocrine organs, particularly the adrenal cortex. It is interesting to note, too, that when one compares so-called normal people at the age of twenty and thirty with normal people at the age of eighty to ninety, one finds a definite decrease in reaction to stress on the part of the adrenal cortex function, showing itself in the lymphocyte and eosinophil count in the blood, and the sodium, potassium, and 17-ketosteroid excretion in the urine. There is a decrease in activity of the adrenal cortex to stress situations. They also find the same kind of changes in schizophrenia.

Carlson: How do they know they can produce the same degree of stress in these people?

Malamud. We are faced with exactly the same problem that we were talking about yesterday, and I would like to suggest that we should try to get away from too much perfectionism; if we wish to get anywhere at all. If you take a series, as we have taken, of persons whom we designate as normal, you might ask me what do I mean by normal? All right, persons living outside and not behind

process is very slow. This also is relevant to your query as to whether the patients may not show changes in the brain some time before they ever begin to show the psychological changes. As a matter of fact, Dr. Stieglitz, you may remember the case I presented when we had that meeting in Washington (4); I presented it as such an example—a person who died at the age of sixty-four with a very rapidly progressing senile psychosis. We did not examine the brain, but it is reasonable to suppose that the patient would have shown senile changes. The clinical symptoms were first noted only several months before the patient died and the most important thing was that the psychosis started in relationship to an acute catastrophic situation in her life. Until then she was adjusting, or compensating, whatever you want to call it, so that the actual psychosis, the failure to adjust may start at any time during the slow progress of the development of organic changes in the brain.

Hoskins: Would it be a profitable concept here, Dr. Malamud, to introduce the thought of the morphologic pathology, being essentially one of a variety of stresses?

Malamud: Yes.

Hoskins: The individual succumbs to stress. It may be the type of stress mentioned or some other stress?

Malamud: Yes.

Stieglitz: Parallel to generic conditions which an acute situation can exacerbate, a preexisting one may not be discovered for a long time after the true onset.

Malamud: The patient was able to adjust. Adjustment in most people may be regarded as a compensation. We all have various vulnerabilities, "Achilles' heels" so to speak. As long as the situation is more or less tolerable, we will adjust, but when a stress situation, physical, biochemical or social, or psychological, develops, the break will come. From a practical point of view that is the most important thing. Therefore, we ought to investigate, not only what it is that makes for disturbance in adjustment but also what makes for the development of histological changes in the brain.

Donahue: May I ask a question to be sure that I understand? You are saying that this woman because of a new stress suddenly developed a psychosis, but you are not saying, are you, that the actual structural change occurred abruptly?

Fremont-Smith: There is no question about the data. They are good but good with respect to what? There is our problem. We have to specify what we mean again. Your normals are perfectly good normals provided that you specify normals with respect to the fact they are not in the hospital. I think that makes an excellent series.

Malamud: I again want to say that we are fortunate in dealing with schizophrenics as contrasted with normal and not with psychoneurotics as contrasted with normals because it is very difficult to find a normal who is entirely without psychoneurosis.

Shorr: Was there any nutritional variable in your case?

Malamud: That was definitely investigated. The question came up because everyone knows how modest the state hospital diet is and how sedentary the life of the patient is. We gave our subjects a high caloric high vitamin diet and did the same experiments.

Hoskins: High protein.

Carlson: For how long?

Malamud: Over a period of time, I think it was months.

Carlson: That is all right.

Malamud. I do not have the exact figures here.

Fremont-Smith. As one goes forward one begins to realize that factors such as nutrition, have to be considered so that the problem is progressively specified in the data. I think this all came out of your early work on the nonreactivity of the schizophrenic, isn't that right? (18)

Hoskins: I think it is an extension of that work. Another characteristic finding is an undue variability in the schizophrenic patients. The general level of response is lower but the variability at that level is high.

Stieglitz: Is there greater variability in the given individual?

Hoskins. Yes.

Malamud: As I said before there is no question that the endocrine system particularly shows definite changes with advancing age.

Carlson. But the only one you have proved is the adrenal cortex. The endocrine system includes a terrific amount. You have

lock and key for one thing. They get along with their friends outside and they don't try to cut anybody's throat. They don't have visions, hear voices, etc. They are living outside and getting along tolerably well, that is they are normal or average people.

We have a fair number of normal people then, each one of whom has been subjected to so-called stress situations, such as pursuitmeters, frustration, and changes of temperature and humidity. Their adrenal cortex reaction was measured in terms of the target organ functions which I have mentioned, lymphocyte count, carbohydrate, sodium, potassium. Then we take a similar number of schizophrenics matched as to age and sex and we subject them to the same stress situations and we find that they do not react, either do not react at all or react much less; then I submit to you, as far as I am concerned, that is a satisfactory study of reaction to stress. Of course, we don't know whether the stress means the same. When you take one hundred people of the one type and one hundred people of the other and subject them both to the same stress situations and you find that all of the one hundred normals react, and that the large majority of the schizophrenics do not react, then I think you can say we are dealing with something that is pretty definite.

Hoskins: I think Dr. Carlson might be better satisfied with the results of injecting anterior pituitary hormone (ACTH). The reactivity to that hormone is definitely less in most of the schizophrenics. How about that in the seniles?

Malamud: The same. The reactivity to ACTH is lower. You can bring up all kinds of criticism if you are so inclined. For instance, a very amusing incident happened last spring at the American Psychiatric Association Meeting when these findings were reported (also reported in reference 17). One of the more dynamically inclined persons wanted to know whether we could exclude with certainty the possibility that the use of the syringe for the injection of ACTH may not have represented a symbol of homosexual threat, and that was the reason why one reaction or another followed. Hoagland responded to this by saying: "We used exactly the same syringe for the injection of both ACTH and saline and I am sure that the schizophrenic did not know the difference between the two."

Shorr: There was a report on the use of sterile saline. In the psychoneurotic it produced the same amount of anxiety and the same chemical and hemotological effects as ACTH.

vestigate both the type of personality make-up and situational stresses that are found to be contributory to these disturbances.

An intensive investigation of a series of involutional cases, both on their first admission and after a seven-year follow-up (13, 14), showed that certain types of personality structure make people particularly vulnerable at the involutional period, as well as during senium, especially when these people are subjected to specific social and psychological stress situations. In general, one can say that persons manifesting a restriction of interests with obsessive compulsive characteristics and who are conscientious, pedantic, introverted, seclusive, and sensitive are particularly prone to break at the involutional or senile period. This vulnerability is increased if they have to meet at that period of life certain catastrophic stress situations, such as loss of loved objects (husband or wife, children, the home, etc.), operations on or injuries to organs generally related to sexual activity, or are faced with social or economic insecurity

The question that comes up first of all is how to define the structure and dynamics of personality. Are we dealing with constitutional, primarily hereditary factors? Is it a matter of early conditioning factors, deprivations, frustrations, rejections? Is there any possible relationship between that and the endocrine organization and function? Finally, what are the specific relationships, psychological as well as hormonal, to the stress situations which precipitate the disturbance in adjustment?

This obviously brings up the question of the importance of social and psychological stress in the development of psychopathological reactions in this age group If we should assume that an organic tissue deficit, both structural and functional, in an individual of a certain type of personality make-up renders him more vulnerable to certain social and psychological stresses, then we come back to our original question which could be formulated somewhat like this. What was the nature of such stresses that has caused a disproportionate increase in the incidence of some of these disturbances, during the last thirty years and particularly, since 1936? I do not know of any systematic studies based on adequate sampling with good control material that could provide the answer to this Nevertheless, we have indications as to what may be the nature of the conditions that have been at least partly responsible. Obviously, there has been a lag between the increased numbers of older people, or rather the increased expectancy of life

not done anything about the testes, the various aspects of the anterior pituitary. Don't generalize. Stick to the fact that we have proven, the adrenal cortex, where you have some indications.

Malamud: You are quite right. We are, however, coming to another phase in the endocrine system in the involutional psychoses.

Carlson: We do not yet have those data.

Malamud: Furthermore, replacement therapy has been of no particular value in most of these cases. Particularly where it occurs ten or twelve years afterward, after the menopause has been very definitely established and there was no psychosis at the time of the menopause. At the same time, Palmer's studies (15) and our own have indicated that other factors, such as the type of personality and of stress situations, both psychological and social, are probably of greater importance in causing the illness than are the hormonal changes.

As a matter of fact, in one series of cases that was studied two groups of women with involutional psychosis were used. One of these groups was treated with various ovarian hormones but the same ones in each case, and the other not treated. The result was that there were more improvements in the women who were not treated than in those who were, which is entirely incompatible with the idea that the endocrine change produces the psychosis.

Shorr: I did a study with Ripley and Papanicolaou (19) on a group of women whom we watched very closely for a matter of three years. We insured full replacement therapy with estrogens by means of vaginal smears, pushing each patient up to full cornification, so that the ordinary variability in replacement requirements which make any standard dosage ineffective for a proportion of patients, was eliminated. There was no doubt about the fact that the symptoms which we see in the menopausal syndrome in the normal individual, such as the flushes and occasional headache, asthenia, and paresthesias, for example, were all corrected. Whenever those were prominent in a case, they were eliminated and the increased well-being that could be expected from elimination of these symptoms did occur; the actual psychotic state, however, was not at all altered.

Malamud: That is right. That has been our experience too. There are some indications that these factors are of importance in the senile psychoses, too. It would, therefore, seem logical to in-

problems at that age. We have to take these factors into consideration, in addition to the biochemical, endocrinological, enzymatic, and other disturbances and deficits. We also have to take into consideration the type of personality of the individual who has to adjust to old age, and the specific stress situation that he has to meet. I have enumerated some of them, but they are only examples and they have stirred up quite a good deal of discussion.

For awhile, the call upon the older population for replacement of those who were taken out by the armed services created an opportunity for the use of these people, at the same time, however, placing extra and hitherto unrequired strain on them. With the cessation of the war, however, and the return of the younger people, the oldsters have again been relegated to retirement which has reintroduced the old problems All of these factors and numerous others, that will probably be referred to by those who discuss the interpersonal aspects, are at present still in the stage of speculation and await scientific investigation.

Carlson: Don't you minimize the responsibility of the individual in making productive, significant work for himself? I agree that the tradition in our own country is a most serious obstacle. There is no argument about that, but even so the individual who has the guts can at sixty-five or seventy or eighty make productive, significant work for himself or herself.

Malamud: Let me answer that. In order to stimulate interest and activity in most people it is necessary to give them the opportunity for doing so. If you throw the whole burden on them, most of them will surrender, will resign. You are placing a responsibility on them before you ascertain how much of that responsibility they can comfortably carry. Certainly a person like you or others here will do that, but how many others like you are there?

I will say another thing. In a study we made recently at Worcester on normal people, there have been some examples of older people who have retained a good deal of their adrenal cortex function. In fact they were almost equal to the younger ones, and they are the only ones who are way on top as far as adjustment is concerned The others are adjusted at a lower level. It means that some people apparently have it in them, but those are the exceptional ones. We are not thinking of the exceptional person: we are thinking of the ordinary [illegible]
son has to

on the one hand, and changes in the social organization necessary to take care of the needs of such a group on the other. In other words, although the proportion of older people has increased the social organization in regard to tempo, nature of activities, attitudes towards the relative abilities of people of certain ages, opportunities for useful occupation and the like, have remained geared to a population structure which antedates the last five decades. In addition to that, certain other conditions have been introduced, particularly since the beginning of the social process which culminated in the second world war. In this country, for example, the period of preparedness followed by the war has on the one hand taken out the young adults, sons and daughters of the old people, from the homes and moved them into either the armed services or the factories which has made it impossible for them to look after the oldsters as they used to before. Psychologically, the recent world war and the preparation for it has placed a premium on youth, bringing out sharply the inefficiencies that are concomitant with old age and not providing an opportunity for the use of the assets that late maturity frequently introduces.

Stieglitz: One thing that you mentioned indirectly, Dr. Malamud, I think is particularly important, and that is that the trauma of transplantation is tremendously magnified, if it is an unusual event. For the individual who in the course of his or her lifetime has been frequently transplanted, for example, the wife or widow of an army officer who has lived three years at one army post, three years at another and five years somewhere else, transplantation is insignificant.

Malamud: The important thing is, too, that you have to take into consideration the constitutional characteristics of these persons. Some people can do it very easily in old age. Some persons cannot do it. There are specific combinations of certain personality traits. I will come to it in a minute before you start asking me what we mean by personality. There is the type of personality plus the particular incident. One person who happens to be of the restless, nomadic type welcomes changes. Another person who is of a different type of make-up cannot adjust himself to such changes. If he has become attached to job, home, mate or family, and has nothing else that he can use for a proper object of emotional attachment, then he is much more likely to develop this type of disturbance.

I would like to say that what is true in the involutional patients can also be applied to the senile, and a good many others with

retired he is approached and helped to develop plans for his retirement years. At the last report, they had dealt with somewhat over two hundred cases and had failed in no more than a half dozen instances in helping the men to find some new way to express themselves, either in remunerative employment or in some other worthwhile activity.

Hoskins: That is General Motors' accomplishment, not that of the individual—deconditioning or reconditioning as far as possible. The individual is a result of a series of processes and on a given day very often he is incapable of doing these things we can see he should be doing.

Donahue: Why do you say he is incapable?

Hoskins: His total conditioning renders it not possible.

Fremont-Smith: Unless General Motors or someone else opens the door and gives him encouragement.

Donahue: What General Motors has done is to step in and change the external situation for these people so that they have found the opportunity to satisfy the needs which are normal to all people.

Shorr: I wonder whether some of our attitudes in relation to what an older person can do are not at fault. I saw in England the Papworth experiment of the late Dr. Varrier Jones in which people with tuberculosis were settled in a community (outside Cambridge), rather than in an institution. They were put to work at jobs which had to do with making leather goods and furniture, in which all the heavy tasks were managed by machinery. In this way, these people, who were not well, could nevertheless continue to be productive. It was a very uneconomical way of making furniture. You could make it much more cheaply in any factory using younger men who could operate the machines that turn out things as they do today. But that was a small price to pay for enabling a group of people to keep their sense of dignity as human beings.

When we consider this in relation to what the older man may do after he stops working, we should recognize that we are not doing as much for the latter. Many things are being contrived for him to do which have not the same relationship to service to the community which his former occupation had, and we go to great effort to keep him amused puttering around at things. I wonder whether that isn't conditioned by the American ideas as to efficiency and whether we should not consider a program in which work

Cowdry: I think what you say has been extremely well said by John Dewey (20).

Malamud: Probably much better than I said it.

Cowdry: I want to repeat it, because I think it is so important: that the social problem never will be solved until we give to everyone the opportunity for socially useful experience. This is the Social Magna Charta of today.

Hoskins: I would like to get back to Dr. Carlson's statement, which I submit to him on the evidence that it is an untrue statement. He said that if they have the guts, and so on, if they want to they can do these things. One of the symptoms of this stage of life is stereotopy. They are patterned. They are patterned rather rigidly, and it is just not humanly possible for a lot of these people to develop new ways of thinking, new approaches to the economic problems. If a man has been a cabinet maker all his life, he very often is actually, not theoretically but actually, incapable of taking up some quite different line of activity. Perhaps it ought to be true that we are all masters of our fate, and should be able to do these things, but as a matter of biological fact it is not true.

Stieglitz: However, such fixation is not unamenable to correction or improvement, because it is certainly possible to *anticipate* and encourage the development of multiple skills and interests. The old medical saying that abruptly to retire a business man means signing his death certificate within a year has an unfortunate amount of truth in it. But this consequence applies *only* if he has just a one-track mind. If he has multiple interests, he can and will continue on other tracks.

Hoskins: If he were another man, it would not be true.

Stieglitz: But the situation can be anticipated. This is what we spoke of previously as "anticipatory medicine."

Kidd: This is a problem not only of individuals but also of institutions and attitudes of society to promote the adjustment.

Carlson: Could you not enlarge that "institutions?" It is a problem of our entire society, and goes back to the improvement and establishment of continuous adult education?

Donahue: General Motors has been carrying out an experiment with workers retiring from one plant. One personnel officer has been assigned to work with this group. As soon as a man has

Shorr: There is just one other point, if I may have a moment. The set of the individual also seems to be related to it, the ductless glandular response in other areas such as the thyroid.

I was struck during the war with the entirely different incidence of Graves' disease in our city hospitals and in our private institutions which drew from different classes of the population. In Bellevue the incidence of Graves' disease during the war fell to extraordinarily low levels. In our private hospital, the New York Hospital, the incidence rose enormously and it was of interest to speculate on why that was so. Here we had the stress of the war affecting everybody. What seemed to be happening was this: in the Bellevue group, economic insecurity had been a major stress factor which was relieved by the fact that everyone was now gainfully employed and making far higher wages than ever before. In the New York Hospital group, financial insecurity was not a major issue The personal security and the war affected the New York Hospital group at an entirely different level. Hence, the *same* stimulus produced a lowering of the incidence in one group and a raising of the incidence in the other.

Carlson. May I ask you if you meant exactly what you said? It isn't the *same* stimulus

Shorr: The apparent stimulus was the same.

Carlson: But it was removal of tension in one case and increasing of tension in the other case. It is not the same stimulus.

Shock: Is it not possible that those who had gone to Bellevue previously were now in the *economic* class that permitted them to go to New York Hospital?

Shorr: I think there is a *tendency* for community habits to persist in relation to institutions.

Frank: As I have listened to this discussion there are two or three things that have emerged in my own thinking, (a) what is the role of work in the life of the individual and (b) won't our psychiatric friends remind us again and again that to work and strive to prove one's ability to meet certain outside demands, is distinct from striving and working to prove one's adequacy to himself? In the first case one is striving because that is the thing to do, or is required by the job outside, in the second case one is striving because of one's personality, guilt, insecurity, what you please? May not that different orientation to jobs give us a clue to what people do when they cannot work?

is provided of the sort that he is used to doing, with of course much less strain on him, and which is a productive carry-over of his previous experience. Even though it is uneconomical for the community to purchase, let us say, all the furniture that way, the cost is well worth it in the sense of satisfaction from knowing that he is still doing work which he has grown to regard as useful, even though at a slower pace.

Hoskins: One can surmise that Dr. Kidd will be following up that lead this afternoon.

Shorr: Another problem that has been brought out by the discussion is the nature of the relationships which arise between hormones and behavior, and how these relations are conditioned. I am most familiar with this problem in connection with ovarian hormones and behavior in women. This is what can be observed. Some women will have complete cessation of ovarian function with no symptoms of ovarian insufficiency. Others will have severe symptoms with normal menstrual cycles, during the physiological reduction in estrogen production that occurs premenstrually. One is struck by the definite relation of emotional stress to the development of symptoms and the frequency with which symptoms will occur for the first time in the menopause coincidentally with some profound emotionally traumatic episode.

Malamud: A vicious circle.

Shorr: One gains the impression that in some completely obscure way, under conditions of emotional stress, an obligatory relationship is set up between the ovarian hormones and emotional stability.

Malamud: You did not ask a question. You made a statement. I agree with you perfectly that we don't know how it is. That is why I say it is one of the fields in which further study should be made. To what extent is there a mutual interrelationship and participation of the two sides: socio-psychological stress and endocrine-biochemical function?

Which one of the two is primary? Or does it matter? There is a mutual interaction and an effect of the one on the other, and in that way a pyramiding into a finally disturbed physiology. The idea is to try to prevent the occurrences, either one or the other, whichever starts the thing going. There is a field where fruitful research can be done.

particular question was pretty well dealt with in Dr. Havighurst's presentation when he asked the questions: "What is it that makes people want to work; what are the factors involved; what does a person find in work?" We find that people differ in regard to incentive to work. There are those who work primarily to maintain themselves. There are also those who find in work something that gives outlet for creative experience, for action, for achievement. Dr Carlson referred to that. Then there is the question of identification as the reason for work. In other words, how many unconscious factors are there in choosing a job and in wanting to continue, or being upset every time you do a job successfully because of unconscious identification, or how many unconscious factors are there in trying to do the job that the father was capable of doing, and as soon as success is nearly achieved getting scared and running away? That was apparent in the case that I mentioned yesterday of the person who for years seemed to be laboring to earn the position of head of his department and when he achieved it got scared and ran. So there are all kinds of factors that come in there. Then as a background to all of that there is the particular personality. If it is a person who is restricted in his interests and concentrates on only one kind of work, investing all of his emotional interests in it, that type of person will lose much more when he loses his job than the person who has not done so. This was the point that I made yesterday in regard to "time-bound" jobs. There are some things we do which are not time bound. Eugen Bleuler, for example, was practicing psychiatry at the age of eighty and doing a good job. He did not feel frightened. As long as he could sit and listen to the patient, he could do a good job On the other hand, Joe DiMaggio at thirty-four is said to be too old and Joe Louis is referred to as being too old Those are some of the factors that have to be taken into consideration.

Frank: Would you not agree that in formulating research programs we ought to be very conscious and alert that we don't lump together people with different life careers? That is what I am worried about We are making large statistical studies of highly unhomogeneous populations with different life spans and different life careers; when we fractionate those groups into different smaller samples, perhaps our findings will be less contradictory and less confusing than they are today.

Malamud: I think so.

Shock: I would like to

There are some social-economic differences in the way people take old age. One study was made some years ago by Charlotte Bühler (21) in Austria on the way in which people's lives came to a climax or plateau depending upon the occupational and social levels. The unskilled worker reached a peak and went on for a time and soon dropped off. The professional person went along aspiring and striving, and the financial managerial person went on for a longer time. Retirement had a very different significance for each one of these different life careers. We ought to recognize that explicity in our studies because it does have differences as Dr. Shorr has just pointed out.

Today each individual, as he grows up, faces the perplexity, the anguish in some cases, of trying to reconcile the utterly irreconcilable ideals in our traditions. One of them is that anybody of any consequence—it has heretofore been men but now women are facing this—have to justify themselves by some achievement. They have to prove that they have what "it takes," and jobs and careers are undertaken by people with emphasis upon hard work. Anybody who is really a sound person will strive, will be self-maintaining, will look after himself, be economically independent; but in our very traditions we cherish the idea that the socially superior person is one who does not have to work. The people we look up to and to whom we give prestige are the so-called idle rich, who have unearned income.

The point I want to make is this: how many of you have noticed—I am sure many have—the ads of the insurance companies, "When I retired I retired at forty-five or fifty at $200 a month," holding that out as an ideal today at the very time other people are saying, "What am I going to do with my life if I give up my job?" It is a kind of conflict. I just want to bring it out. I don't have to elaborate it.

Malamud: I think you are quite right.

Frank: We must be sensitive to conflicting traditions and demands that are made upon people today and realize that without some help, without some outside guidance, they cannot resolve these alone, especially when they get older. That is where preventive mental hygiene work is going to help people to face these conflicting, irreconcilable beliefs which are too much for any one individual to resolve alone today.

Malamud: You are quite right and I think yesterday that

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Malamud: You are quite right and I think yesterday that

classes have led a life of leisure, never have worked, I think we might find that the compulsion to work continuously is not as prevalent and that that type of advertisement would be consistent with the mores. Our program for the aged might very well take an entirely different form inasmuch as what we are dealing with in this country is a particular attitude toward what work means as compared to what leisure means and we are being penalized for it in our elderly.

Cameron: Here at this particular moment are three of the things that seem to me to come out so far as being the area in which we need information or action: One is the definition or clarification as to the meaning of work for people. The second is exploration of the attitudes of the community toward the older person. We mentioned yesterday the matter of hostility. The third is one I will state with some doubts because it has not yet been brought up. I don't think it is quite within our scope I am sure one thing that one needs in order to get things moving in this field is a sort of grass roots' activity on the part of the community, something that is similar to the big cancer societies across the country and their local branches, something that might be called a senior society, a senior citizens' society or group of societies, something of that kind. Such an organization might play an important role in bringing about some of these changes in the mores.

Fremont-Smith: Everybody could participate in it.

Cameron. As Dr. Shoi1 was saying, we need to have some kind of restatement in our mores with regard to the significance of leisure and the significance of work. I think we are still laboring pretty much under the old idea that man must justify himself in terms of work but at the same time those of us who have young children in school are aware of the fact that the whole school curriculum is changing, not in preparation for later justification of yourself in terms of work but in preparation for living. It is rather an odd sort of thing and I know many people don't like it, but it is going on.

Frohlich· We have been talking about the meaning of work and I think that we have dealt for the most part with the secondary meanings, those which we developed in the course of our personal and social history. Dr. Carlson has suggested that it is a biological phenomenon that we work. I wonder whether we know that it is a biologic necessity for us to work, or whether there is within us a

would propose as effective for finding out what the meaning of work is to an individual. Apparently you don't ask him because he may not know. I should like to ask what you are going to do in the laboratory tomorrow?

Malamud: If you mean by laboratory a place fitted out with beakers and test tubes, I say I don't know. If you mean by laboratory, or at least if you include in the laboratory, the hospital and the outpatient clinic, and the office of the physician, I would say there is a great deal to do, and I would reiterate what Ewan Cameron said, namely, that the interview technique is still, as far as I am concerned, probably the best tool we have. Talking to the patient, or rather letting him talk to you, eventually brings out a number of things. That is what we do with our patients. A patient comes in and seems to have difficulty in adjusting, he wants to know whether he is doing the type of work that he should. If you give him the opportunity to unburden himself, and without too many direct questions can steer him to discuss all of these factors, you will get somewhere even if it is admittedly a slow procedure. If we can start the thing now and be satisfied, even if we cannot do the whole job right now, then we can put it in a nice little package and give it to the public and say, "Now we know all about this thing; we know exactly what to do," then we will accomplish something. We have to be satisfied with chipping off small pieces from the wall which hides all of these mysteries behind it, and eventually we will find the answer. What is most important, as far as I am concerned, is to remember that we may be able to bring some help to individuals with whom we are working and at the same time, also realize that we are participating in something that two, or three, or five, or ten generations later may yield the answer. That is the thing I hope is going to keep me from growing old.

Shorr: Mr. Frank raised a very interesting point which makes me feel that we would benefit by comparative studies of other cultures. He points out that the advertising on the part of the insurance companies stresses the man who at forty-five or fifty is now in Palm Beach. I wonder whether that isn't as un-American in terms of a goal as anything. In other words, it is a poor choice, and—

Carlson: Un-American and unbiological.

Shorr: I was coming to that. If, however, we were to turn to other cultures in which unlike America there is no guilt feeling about leisure, such as in England where a large part of the upper

percent of the patients responded with complete disappearance of symptoms, with no other medication.

Shorr: You are probably a better psychiatrist than I am.

Stieglitz: But there are somatopsychic phenomena.

Malamud: Somatopsychic?

Stieglitz: Yes, as well as psychosomatic. Again we should as the chemists do visualize arrows pointing in both directions, rather than in only one direction.

To come back to this question of the more or less predictable psychological trauma of senescence, the question of social values is most important because the essential meaning of work depends upon values By values I mean what we are willing to strive for, what is important, what is not important Values, of course, change with maturation. Our values change constantly. Those of youth are not the same as those of middle age, and the elderly individual certainly has different values than he had in his youth.

One of the most common sources of confusion on the part of individuals, —(I am trying to simplify this, perhaps to oversimplify it) particularly in mature adults—is an inability to distinguish between true, sincere, intrinsic wants and what we can call "ought-to-want." The "ought-to-want" are the things we have been brought up to want, are supposed to want. They are not real wants but imposed desires plastered on the outside. As the plasters get thicker and thicker they inhibit free motion. If the individual can be assisted to distinguish between the true want or not want and his "ought-to-wants," there usually occurs a great clarification of his purposes, of his values and of his objectives. If he knows what he truly wants he can begin to go after it. Unfortunately, probably 99 percent of people spend their lives running *away* from what they don't want, instead of running *to* what they do want. Why? Largely, in my opinion, because they don't know what they want. They have no goal. They often are not aware of the need for a goal. They only know that they don't want what they have.

One may use the crude symbolism of a football game with one set of goal posts, in which one team is supposed to carry the ball as far away from the posts as possible. When this team gets sixty or seventy yards away from the goal, every time they are tackled it is harder to get up. If the posts are in front of them, every time they are tackled it is easier to get up. There is a vast difference between

biologic urge to work. If so, how does this urge become transformed into useful work? Where does this urge originate? I think there are still some problems in connection with work which need to be solved. Why do we work? What makes us work, and how does this change with aging? As far as the meaning of work for old people is concerned, it is sometimes pretty similar to the meaning of the various collections of valuable or valueless things which old people accumulate and which then serve as symbols of their past. They also serve the purpose of preventing the insecurity of the present and of the future. Work too, at least in part, may have a meaning less in terms of any intrinsic present value than in terms of something symbolic.

Frank: We may say that in the last hundred years we have been increasingly less concerned about eternal salvation; we have shifted that concern or anxiety over into the personal life work and achievement. People are still carrying on the old pattern that living itself has no meaning, so they must justify their existence not in terms of eternal salvation but in terms of hard work and denial of living.

Frohlich: At the same time that our average life span becomes longer, we shorten each work day, and we shorten that part of the span of life during which we work in our culture.

Stieglitz: May I go back for a moment to Dr. Shorr's discussion of the psychosomatic and somatic aspects of premenstrual intoxication? It is perfectly obvious that stresses and strains greatly intensify the premenstrual intoxication, but that does not prove that somatic factors are not etiologically significant.

Shorr: When you use the term "intoxications"—

Stieglitz: I am using the term "intoxication" deliberately and intentionally. It is extraordinary how the ability to withstand the same stresses and strains without psychotherapy is enhanced by the application of diuretic medication premenstrually. The diuresis apparently diminishes a true chemical intoxication. Both psychosomatic and physiological phenomena are involved. The two are not mutually exclusive.

Shorr: May I register a disagreement on the basis of my experience that this diuretic has proved to be far less effective than replacement therapy with estrogens?

Stieglitz: Our results, as reported last December in the American Journal of the Medical Sciences (22), showed that exactly 90

are receiving going to be enough to carry them through without a rather definite continuation later on? I am reminded here of a medical man's point of view. He recently told me that he thought any of our relationships to the aged, our attitudes toward old age, or our work with it, were a matter of maturity. Will maturity be reached earlier through this new kind of education you are discussing or will it be deferred?

Cameron: I might answer that. I would say that I think what I was pointing to is simply the beginning of a trend. We have a method of teaching psychology which is different from what we have had before As far as children are concerned, the teaching of human relations is now going on in the schools in Toronto and Montreal as well as in Delaware and some other states in this country. There is no doubt that continuous education is going to be absolutely essential.

One of the things we have been puzzling over during the years is to find one way of effecting a much more explicit tie between the large fact-finding social science departments and those agencies that are undertaking adult education, either under the name of adult education or under the name of parent-teachers' associations, or possibly Women's Canadian Clubs. When you can make that association explicit and have it carry over steadily and continuously I think you will accomplish something but until then you will be out of luck.

Randall: At the present time we do not have it, but we could have an arrangement which might be effective in minimizing some of our family difficulties I think many of these family difficulties contribute to the increasing admissions to your institution, Dr. Malamud.

It has also seemed to me that the staff in family agencies have a unique opportunity for contributing to our knowledge of trying to find out what the factors and forces are in family life that perhaps bring about some of the maladjustments and bring patients to you, particularly older patients.

Frank: We are concerned with research to be carried on at various levels. Can we as a group interested in gerontology begin to think in terms of a large scale biological assay of our whole society and culture? We have learned in [illegible]
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I think the etiological factor in back of this high incidence of escapism is the yearning for sociable, multiple contacts, an escape from solitude, rather than good adjustment. Excessive social contact may be purely an escape from solitude. This is particularly applicable to those individuals who have not identified what they do want. They just don't know. In youth, the necessity of procreation, earning a livelihood, and so on occupies so much time and energy that the lack of true purpose for existence is not a critical factor until leisure is greatly increased, either abruptly as in situations of retirement or disability, or more gradually. The problem is definitely related to wise utilization of leisure and is buried by the obligatory activities which are necessary for survival.

Kidd: Thinking about the significance of attitudes toward work cannot be confined to the laboratory. I do not think you can confine the investigations that you want to make to people in the clinic and extend concepts on this question of defining work and what they get out of it to general employment offices or to people on the job to see what the attitudes are. In discussing what work means to people, I think that work has to be very carefully defined. It can mean a number of things: first, any sort of purposeful activity; second, earning a living; and third, getting wages for current work.

Randall: I am very happy about what Mr. Frank just said regarding mores and the lag, shall I say, in shifting some of our attitudes. I think that is particularly true in family groups. I am interested in discovering whether those mores which are making it difficult for older people are the same which they passed on to their children so that they continue to hold for the family group. This conflict contributes to some of the disapproval of older people and the rejection of them. In this whole area, I would not go back as many as two or three hundred years. In the last fifty alone we have moved so fast that we have not begun to realize the force of this factor as fundamental in family relationships. I believe it is one of the reasons for a great deal of our difficulty.

I should like to take up a point that Dr. Cameron just made about the shift in education and attitude toward education for life. I wonder whether he believes that in what is happening with the undergraduate and with children there is enough carry-over for us to look forward to a better use of adult education. Is the new approach a preparation for adult education or is the education they

re receiving going to be enough to carry them through without a ather definite continuation later on? I am reminded here of a nedical man's point of view. He recently told me that he thought any of our relationships to the aged, our attitudes toward old age, or our work with it, were a matter of maturity. Will maturity be reached earlier through this new kind of education you are discussing or will it be deferred?

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Frank We are concerned with research to be carried on at various levels. Can we as a group interested in gerontology begin to think in terms of a large scale biological assay of our whole society and culture? We have learned in biology to evaluate a mode of life, temperature, humidity, nutrition in terms of their influence upon the life space of animals. Can we begin in a similar way to

evaluate our cultural traditions and social life, both in terms of the biological and the psychological costs, which we are now exacting from individuals for loyalty to those traditions? From the point of view of aging, what are the results of growing up in our society, undergoing our education in homes and schools, submitting to our various traditions, as revealed by human beings when they come to this later period of life, with the defeats, frustrations, and all the psychological costs as well as the biological costs? Isn't it time that we state the problem in these larger terms and assert that we don't have to go on sacrificing people if we will recognize that human life and human values are important? That is going to cut pretty deep and make many people unhappy. Our theological friends, our churches are still implanting some of these ideas that lead to the later frustration of life. Our psychiatrists have evidence of what loyalty to some of our archaic ideas involves.

If we are going to undertake in a broad sense that kind of evaluation, which I call a biological assay, we will have to make a social-cultural assay of everything we are doing and thinking. I tried to point out some years ago in a report on "Human Conservation" (23) that democracy goes beyond voting, representative government, beyond freedom of speech, action and beliefs or freedom of contract. Democracy is an aspiration, the belief that human beings have value and worth, and that a society must recognize and conserve the dignity of every man, woman, and child, to deserve our continued loyalty and support.

Our concern about subversive propaganda should lead us to ask: Why is it that so many people are prepared to accept alien ideas and programs and give up their individual loyalties and patriotism to their country? Why is it that so many people are wondering whether our institutional life, laws, and customs are worth preserving? The answer is not in terms of outlawing subversive propaganda or the F.B.I., but to reformulate our way of life and our democratic conceptions to give life more meaning and significance. In other words, our individual research jobs have to be done with that background in view or they won't add up and register on the rest of society.

Hoskins: To what extent is the Benedict-Mead project touching on these things that you mentioned?

Frank: They are examining what people live by and for, their traditional beliefs and patterns, their cherished goals and values (24). Every culture offers a way of life for people, something to

live by and for, and so is an ethical aspiration. In most cultures, the criteria for judging in the past have been something outside of man. It has been revelation. It has been authority. It has been something nonhuman, superhuman. Today for the first time it would seem to me that we of the Western world particularly are beginning to say what we can do as human beings, what kind of a social order and culture we want in terms of human beings and their potentialities. That is the most revolutionary idea now abroad. That is what we are concerned with in gerontology, where we see the end-products, what we have done for and to people who have striven to live up to our traditions. The tragedy is that they have given their utmost, sacrificed everything to live up to certain ideals and cultural aspirations, with the consequences we can plainly see.

Our culture is not something delivered from on high; it is our own historical creation and we can change it. We can change it through adult re-education. Every time parents stop teaching their children self-defeating ideas, we are changing our culture. Part of the problem we face in this group is: What *changes can we offer* with some confidence and therefore be able to say to old people, "Look, you can make these changes and it is now socially desirable; it is a productive, creative thing to create a new design for living rather than go on in this self-defeating, socially destructive pattern." In some of these directions, these sociological studies are giving us more courage, giving us some way to manage the problem, not merely engage in philosophical debate.

Hoskins: I don't know whether the group got the reference to the Benedict-Mead studies. They are carrying out an elaborate investigation of cultural conditioning in different fairly pure cultures of ethnic groups, such as Russians, Mid-Europeans, and others of that sort, trying to find out what is actually making the wheels go round. If that study were extended along the lines that Mr. Frank suggested it would be quite productive.

Fremont-Smith: Mr. Frank spoke about assessment of our whole biological-social system and Dr. Malamud, early in the discussion, spoke about personality and what we mean by it. These are two phases of the same problem. I would like just a minute to touch on that. We have great need for a more adequate concept of personality. We have personality as described by the students of Pavlov, and we have personality as described in terms of genetic influences. What we have to do now is to try to develop a more rounded concept which takes cognizance of data coming from all the relevant fields that bear on personality.

I will mention a few specific concepts to show the complexity of the situation. For example, there is the genetic concept and there is the conditioned reflex concept—there are in addition psychological test procedures, projective tests, such as the Rorschach, which give another concept. Important data coming from Gestalt psychology certainly cannot be ignored in any rounded viewpoint of what we mean by personality. Still further there are important data, coming from hypnosis and clinical phenomena, anesthesia, dual personality, and fugues, that cannot be ignored in trying to assess the personality. There apparently is a curve showing what you obtain from psychoanalysis and, on the other hand, there is another kind of vertical split where you have amnesic fugue, where a person will be able to have conscious and unconscious levels, in personality A and personality B. You get automatic writing phenomena which are difficult to evaluate but cannot be ignored if you are going to consider personality. Also we have to take in the data coming from brain pathology, injury, disease, or surgical cutting, or as Dr. Malamud said, "egg-beating." There are the very important influences of drugs, both the depressive, and stimulative, benzedrine being an example of the latter; the chemical effects upon personality manifestations, and then the hormones. On the other side of the problem there is the social and cultural impact. It is a very complex business and the whole story was put rather nicely as I came down in the elevator yesterday. Dr. Cowdry spoke of the clash of minds'—The elevator boy said, "The trouble is we cannot figure ourselves out." That is just it.

Isn't it amazing, from another point of view that there should have come through the process of evolution a self-reflecting organism that would even begin to wonder about figuring himself or herself or ourselves out, and Mr. Frank wants us to figure out the whole business at that. I think we have to keep trying and also remembering that there are other facets as yet unknown which will throw light on personality.

Malamud: I have very little to add. I want to reëmphasize the existence of a social lag in regard to the manner in which our present social organization is treating the increased number of older people. Also that in providing opportunities for useful occupation for older people we should do so not *in spite* of the fact that they are old, but provide for them activities that they should engage in *because* they are old and have developed certain assets which perhaps they have not had before.

REFERENCES

1. Cowdry, E. V. (Editor) *Problems of Ageing*, Williams and Wilkins, Baltimore, 1939.
2. Kaplan, O J. (Editor). *Mental Disorders in Later Life*. Stanford University Press, Stanford, 1945, vi and 436 pp.
3. Malamud, W. Current trends and needs in research on problems of the aged. *Dis. Nerv System*, 2, 37, 1941
4. Malamud, W Mental disorders of the aged, arteriosclerotic and senile psychoses *Publ. Hlth Rep*, *Wash.*, Suppl No. 168, 104-117, 1942
5. Fischer, O Die Presbyophrene Demenz. *Zeit. f ges. Neurol Psychiat.*, 3, 371, 1910.
6. Rothschild, D. Senile psychoses and psychoses with cerebral arteriosclerosis. *In*· Kaplan, O J., (op. Cit. 2), p. 233, 1945.
7. Simchowicz, T. Histologische Studien uber die Senile Demenz. *Hist. Histopath Arb Grosshirnrinde*, 4, 267, 1910
8. Gellerstedt, N Zur Kenntnis der Hirnveranderungen bei der normalen Altersinvolution. *Upsala lakaref forh.*, 38, 193, 1933.
9. Alzheimer, A Ueber eine eigenartige Erkrankung der Hirnrinde. *Allg. Z. f. Psychiat*, 64, 146, 1907.
10. Malamud, W, and Lowenberg, K Alzheimer's disease; contribution to its etiology and classification *Arch Neurol Psychiat.*, 21, 805, 1929
11. Goldhamer, H., Goldhamer, M, and Andrew, W. The frequency of mental disease; long term trends and present status The Rand Corp, Santa Monica, 1949.
12. Shock, N. W Physiological aspects of mental disorders in later life *In* Kaplan, O. J, (op. Cit. 2), p 23, 1945.
13. Malamud, W., Sands, S. L, and Malamud, I. Involutional psychoses, socio-psychiatric study. *Psychosom. Med*, 3, 410, 1941
14. Malamud, W., Sands, S L., Malamud, I. T, and Powers, PH J. P The involutional psychoses. *Am J Psychiat*, 105, 568, 1949.
15. Palmer, H D, and Sherman, S H Involutional melancholia process *Arch.* [illegible]
16. Shock, N. W.
United States I
17. Hoagland, H., [illegible] Pituitary-adrenocortical function in patients with severe personality disorders Chap 47 in J. R. Mote (Editor), *Proceedings of the First ACTH Conference*, Blakiston Co, Philadelphia, 1950, pp. 544-553.
18. Hoskins, R. G *The biology of schizophrenia* Norton & Co, New York, 1946, 191 pp.
19. Ripley, H. S, Shorr, E, and Papanicolaow, G The effect of treatment of depression in the menopause with estrogenic hormones *Amer. J. Psychiat*, 96, 905-911, 1940.
20. Dewey, J. Introduction. *In* E. V. Cowdry (Editor), *Problems of Ageing* Williams & Wilkins, Baltimore, *2nd Ed*, *1942*, pp. xxvi-xxxiii
21. Buhler, C *Der menschliche Lebenslauf als psychologisches Problem.* Hirzel, Leipzig, 1933, 328 pp.
22. Stieglitz, E. J., and Kimble, S T. Premenstrual intoxication *Amer. J Med Sci*, 218, 616-623, 1949
23. Frank, L K, and Kiser, L. K. *Human conservation, the story of our wasted resources* National Resources Planning Board. U S Govt. Print Off., Wash, 1943, 126 pp
24. LaBarre, W. Columbia University research on contemporary cultures *Scientific Monthly*, 67, 239, 1948

ECONOMIC ASPECTS OF GERONTOLOGY

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I WOULD like to make a few introductory remarks as to where economic considerations, as I see them, fit into all of the questions bearing upon an aging population.

One of the major differences between discussions of economics and discussions of physiology and psychiatry is, of course, the fact that economics typically deals with groups while the other two disciplines deal with individuals. There are areas of convergence, but the two fields have so far stayed pretty much apart.

I have the impression, though, that the data, projections and analyses of demographers and economists are more relevant to problems considered by other social scientists than is generally realized.

There are, first of all, measures of the age distribution of the population. I suppose that the process of aging and the physical and psychological problems of older people would be studied even if the size of the group over sixty-five were shrinking both absolutely and relatively. But the fact that this group is growing both absolutely and relatively certainly lends more emphasis and urgency to these studies. (*Table I*)

TABLE I

TOTAL POPULATION AND POPULATION 65 YEARS AND OVER: UNITED STATES, SPECIFIED YEARS

Year	Total Population		Population 65 and over		Population 65 and over as percent of total
	Number	1900=100	Number	1900=100	
1900	75,994,575	100	3,080,498	100	4 1
1910	91,972,266	121	3,949,524	128	4.3
1920	105,710,620	139	4,933,215	160	4 7
1930	122,775,046	161	6,633,805	215	5 4
1940	131,669,275	173	9,019,314	292	6.8
1949 (estimate)	148,720,000	195	11,270,000	365	7.6

Source: Bureau of the Census, Sixteenth Census of the United States, "Population," Vol. II, part 1, table 8, and "Current Population Reports," Population Estimates, Series P-25, No. 39, table 1. Estimate for July 1949 excludes armed forces overseas

Differences in the proportion of the population of the States that fall in the over sixty-five group are most interesting, and offer grist to the mill of both the demographer and the sociologist.

In New Hampshire, for example, over 10 percent of the population is over sixty-five. It is quite possible that the country as a whole will not reach this level for ten or fifteen years. This and other States with a high proportion of aged are in many respects laboratories in which the future can be studied in the present.

The States with the most extreme drives for pensions for old people are not those where the proportion of older people is highest. How come? What are the sociological or other factors that lend to pension drives? (Table II)

Facts with respect to the age composition of the population and forecasts for the future are not determined by case studies, but by population counts supplemented by a well-developed discipline—demography. These basic investigations supply the base lines for social and economic policy.

Labor force data are also relevant to the work of the sociologist [illegible] mple, of [illegible] The dis [illegible] terms of individuals drives, satisfactions, adjustments and so forth.

In terms of the whole population, what proportion of the older people are in the labor force—that is, at work or seeking work? Is the proportion of older people in the labor force increasing or declining?

Long-term trends show a sharp decline in the proportion of men over sixty-five who are in the labor force. In 1890, 68 percent of them were in the labor force, in 1950, only 45 percent of them are in the labor force. (Table III)

So far as older women are concerned, relatively few of them are in the labor force—only about 10 percent.

These figures seem to me to emphasize the urgency of the research related to the impact of idleness upon older workers. Unless this trend can be reversed, more and more older people are going to be dependent for income and for satisfaction upon sources other than pay and jobs.

TABLE II

ESTIMATED TOTAL POPULATION AND POPULATION 65 YEARS AND OVER, BY STATE: UNITED STATES, JULY 1, 1948

Division and State	Total Population	Population 65 Years and Over	
		Number	As Percent of Total Population
Total	146,113,000	10,940,000	7.5
NEW ENGLAND:			
Maine	898,000	86,000	9.6
New Hampshire	523,000	53,000	10.1
Vermont	363,000	35,000	9.6
Massachusetts	4,638,000	425,000	9.2
Rhode Island	745,000	60,000	8.1
Connecticut	1,989,000	163,000	8.2
MIDDLE ATLANTIC:			
New York	14,231,000	1,104,000	7.8
New Jersey	4,768,000	349,000	7.3
Pennsylvania	10,478,000	790,000	7.5
EAST NORTH CENTRAL			
Ohio	7,842,000	661,000	8.4
Indiana	3,917,000	345,000	8.8
Illinois	8,348,000	662,000	7.9
Michigan	6,216,000	423,000	6.8
Wisconsin	3,300,000	281,000	8.5
WEST NORTH CENTRAL			
Minnesota	2,934,000	247,000	8.4
Iowa	2,612,000	255,000	9.8
Missouri	3,892,000	363,000	9.3
North Dakota	582,000	45,000	7.7
South Dakota	611,000	50,000	8.2
Nebraska	1,283,000	117,000	9.1
Kansas	1,895,000	184,000	9.7
SOUTH ATLANTIC:			
Delaware	300,000	23,000	7.7
Maryland	2,155,000	147,000	6.8
District of Columbia	863,000	57,000	6.6
Virginia	3,051,000	182,000	6.0
West Virginia	1,911,000	115,000	6.0
North Carolina	3,798,000	187,000	4.9
South Carolina	1,982,000	94,000	4.7
Georgia	3,167,000	183,000	5.8
Florida	2,430,000	178,000	7.3
EAST SOUTH CENTRAL			
Kentucky	2,856,000	199,000	7.0
Tennessee	3,179,000	203,000	6.4
Alabama	2,901,000	156,000	5.4
Mississippi	2,114,000	119,000	5.6
WEST SOUTH CENTRAL			
Arkansas	1,937,000	133,000	6.9
Louisiana	2,591,000	141,000	5.4
Oklahoma	2,295,000	163,000	7.1
Texas	7,371,000	451,000	6.1
MOUNTAIN:			
Montana	511,000	42,000	8.2
Idaho	586,000	42,000	7.2
Wyoming	285,000	17,000	6.0
Colorado	1,199,000	101,000	8.4
New Mexico	571,000	27,000	4.7
Arizona	704,000	37,000	5.3
Utah	670,000	39,000	5.8
Nevada	164,000	11,000	6.7
PACIFIC:			
Washington	2,463,000	209,000	8.5
Oregon	1,639,000	143,000	8.7
California	10,354,000	841,000	8.1

Sources Estimated total population from Bureau of the Census, "Current Population Reports," Population Estimates, Series *P-25, No 26*, *estimated population 65 years old and over*, from same series, No 37 Total population includes armed forces stationed in each State and excludes armed forces overseas

TABLE III

PERCENT OF PERSONS 45 YEARS AND OVER IN THE LABOR FORCE: UNITED STATES, SELECTED PERIODS, 1890-1950

Age and Sex	1950 (Apr.)	1940 (Apr.)	1930 (Apr.)	1920 (Jan.)	1900 (June)	1890 (June)
MALES						
45 yrs. and over	78.5	77.7	82 5	83.2	84.3	86.7
45-54	94.6	92.7	93 8	93.5	92 8	93 9
55-64	85.1	84 6	86 5	86.3	86.1	89 0
65 yrs. and over	45.0	42 2	54 0	55.6	63.2	68.2
FEMALES						
45 yrs. and over	26.2	16 3	15.4	14.3	12.3	11.1
45-54	36 9	22 4	19.7	17 9	14.2	12 5
55-64	27.3	16.6	15 3	14 3	12.6	11.5
65 yrs and over	9 5	6 0	7.3	7 3	8 3	7.6

Prepared by Bureau of Labor Statistics 1890-1940 data from John S Durand, "The Labor Force in the United States, 1890-1960". 1950 data from Bureau of the Census

Not only may fewer older people be in the labor force, but the gap in years between retirement and death will almost certainly widen, although the precise increase depends on some assumption as to the future. The Bureau of Labor Statistics has produced some interesting facts and estimates on the number of years in retirement In 1900, the average white male sixty years old had an average of 14.3 years of life left and an average of 11.5 years left in the labor force—only 2.8 years in retirement. By 1947, the average number of years in retirement had risen to 5 6 years. By 1975, this gap may approach an average of 9 years. (Table IV)

On this question of work and leisure, even those who do work are going to work less and less—in terms of hours per week. The average length of the work week has declined from sixty hours in 1890 to forty-four hours in 1929 and to thirty-nine hours in 1950. Even under war pressures, the average work week rose to only forty-six hours in 1945 It seems quite unlikely that this long-run trend will be reversed or even slowed down We have as a Nation decided—consciously or not—that we prefer to trade goods for leisure. This decline is, of course, a favorable factor so far as older workers are concerned. The strain of production in a mechanized environment is at least mitigated by the declining length of the work week.

TABLE IV

AVERAGE NUMBER OF REMAINING YEARS OF LIFE, IN LABOR FORCE AND IN RETIREMENT; WHITE MALES; 1900, 1940; TOTAL MALES, 1940, 1947, 1975

Year	Average number of years of life remaining		
	Total	In labor force[1]	In retirement
	At age 20		
White males:			
1900[1]	42.2	39.4	2.8
1940	47.7	42.0	5.7
Total males.			
1940	46.8	41.3	5.5
1947	48 0	42 8	5 2
1975 (A)[2]	52.7	42.8	9.9
1975 (B)[2]	52.7	45.9	6.8
	At age 40		
White males:			
1900[1]	27 7	24.5	3.2
1940	30.1	24.2	5.9
Total males:			
1940	29 6	23 8	5.8
1947	30.2	24.8	5 4
1975 (A)[2]	33.9	24 5	9.4
1975 (B)[2]	33.9	27.2	6.7
	At age 60		
White males:			
1900[1]	14.3	11.5	2 8
1940	15.1	9.2	5 9
Total males:			
1940	15 1	9.2	5 9
1947	15.3	9 7	5 6
1975 (A)[2]	16.8	7.9	8.9
1975 (B)[2]	16 8	10.5	6.3

[1]*Mortality data based on records of 11 original death registration States.*

[2]A: Assumes continued decline in labor force participation rates for men, 55 years and over, based on 1920-40 trends B: Assumes labor force participation rates at 1947 levels.

Source. Bureau of Labor Statistics, B L S Bulletin 1001

Another area of concern to those who deal with older people as individuals is the range of problems arising out of the living arrangements of older people. Overall statistics on living arrangements furnish some guides as to where the problems lie. (Table V)

About ninety-five out of every one hundred persons over sixty-five live in a household—that is, not in an institution. It seems quite unlikely that the proportion of older people who do not live

TABLE V

ESTIMATED HOUSEHOLD RELATIONSHIPS OF PERSONS 65 YEARS AND OVER, BY SEX: UNITED STATES, APRIL 1949

Type of household, and household relationships	Total	Men	Women
Total in population	100.0	100 0	100 0
In households	95.7	94 0	97 2
In quasi-households (institutions, etc)	4.3	6.0	2 8
IN HOUSEHOLDS	(95.7)	(94.0)	(97.2)
In families (living with related persons)	78 4	81.5	75 7
Not in families (alone or with nonrelatives)	17.3	12 5	21 5
IN FAMILIES	(78 4)	(81.5)	(75.7)
Married and living with spouse	50.6	67.6	35.2
Other marital status	27.9	13.9	40 5
MARRIED AND LIVING WITH SPOUSE	(50 6)	(67 6)	(35 2)
Family comprises couple only	26.3	35.1	18.3
Other relatives present	24 3	32 4	16 9

Source Estimated by Federal Security Agency, Social Security Administration, from Bureau of the Census, "Current Population Reports," Population Characteristics, Series P-20, No 26, and unpublished Bureau of the Census data

Definitions Th[illegible] 1949 by the [illegible] house an [illegible]

Note on Institutional Population In 1940, the latest year for which there is information, 221,963 persons 65 and over lived in institutions as follows. home for aged, infirm, or needy, 127,630 mental institutions 87 874, prison or jail 4,868, other and not reported, 2,499

in households will rise very much. This means that the work of sociologists and of those who deal with the problems of individuals will be most cogent to the needs of most older people if attention is centered upon family relationships rather than upon the problems of individuals in an institutional atmosphere.

What do all of these global figures amount to? At a minimum, they seem to offer guides to those whose attention is centered upon the individual. It may be held, of course, that the usefulness of research in the social sciences cannot be judged by the size of the group affected by the findings. That may be so, but isn't it probable that the increasing frequency of conferences such as this and the expansion of research in gerontology are basically a

of the fact that a larger proportion of our population is in the older age brackets?

If this is so, isn't it logical to explore beyond the gross age distribution data to see what kinds of investigations are likely to be most fruitful? I have simply sketched in the briefest terms some of the points at which demographic and economic data seem to offer guide lines for research.

I would like to turn now to a quite distinct area of economic studies. This relates to the place of older people in the total economy.

First of all, there is the question as to what the economy can afford in the way of provision of goods and services to older people. The first fact that stares me in the face in this connection is the declining proportion of older people in the labor force, which I mentioned earlier. It would seem to me wise both to intensify efforts to keep older people at work, and to anticipate that in spite of these efforts the proportion of older people in the labor force is going to decline.

Provided the economy can continue to expand, and provided satisfactions and prestige other than those arising from work accrue to older people, this is a pleasant outlook. There are, however, fairly extensive provisos.

Economic studies have a second area of usefulness. Broadly defined, this is the relationship of an aging population to the total economy.

First, there is the question of the effect of an aging population on the productivity and total output of the economy.

Currently, older people are producing at the rate of ten to twelve billion dollars per year. Roughly this volume of output would be sacrificed if all people over sixty-five quit their jobs. The economy therefore has a very substantial stake in the employment of older workers. This concept cannot be carried too far, but it is a fair measure of the contribution that older people make to their economic welfare and the welfare of others.

A second area of inquiry relates to the ability of the economy to bear the cost of a rising proportion of older people. If the long-range increase in productivity of 2.5 percent per year continues, if the proportion of the population in the labor force stays about where it is and if the work week declines gradually, total output

will be adequate to lift the real income of both the working population and of the nonworking older and younger age groups.

This last point deserves some mention. While the older age group becomes a larger proportion of the total population, the relative size of the younger age group will shrink. Whether the baby boom will change this forecast remains to be seen. But in any event, it is misleading to assess the economic effect of an aging population without weighing the effect of the total age distribution of the population.

The problems are ultimately ethical and political rather than economic. How should the pie be cut as between the younger nonproducing groups, the producing age groups and the nonproducing older age groups? A case can be made for the contention that, granted the real needs of the older age groups, the Nation might be better off if a larger proportion of total output were devoted to the younger age groups in the form of more extensive maternal and child health programs, more and better schools and teachers and so forth.

Of course, no discipline—sociology, economics, medicine, or any other—can resolve the final question of equity—how the pie is to be cut between various age groups, social groups, and economic groups.

Carlson: How do you define pie here?

Kidd: I define the pie as the total output of goods and services in any year.

I have talked thus far pretty much about the guide lines that economic studies can provide for other disciplines, and the contributions that these studies can make to national policy.

There is another side to this coin. The economic man is now in most quarters a discredited figment of theoretical economists' imagination. Real people in a real world do not always do what they think will maximize their income. They are driven by custom, chained by fear, lifted by aspirations and in general affected by all sorts of emotions and drives that have little to do with what would be expected if they were guided solely by economic considerations. Nevertheless, what they do does affect their income, and the action of the economy as a whole For this reason, economists interested in the net results of group action must pay attention to individual action and to noneconomic motives.

To reduce this problem to specific terms, look at the Share-the-Wealth plans of various kinds—the Townsend plan and related schemes. On the surface, these plans gain their strength from the precarious financial status of older people. The promise of free pensions on a fairly lavish scale is at first blush the source of the appeal of these plans.

A strong case can be made for a somewhat more complicated story. These pension drives are a social as well as an economic movement. As long as the expanding older population does not have a sense of participation, of usefulness and of acceptance as a group with high status, it is quite unlikely that that provision of money alone will ease the drive for more. In these terms, the economic problem of providing adequate incomes for an aging population is in large measure a social problem. The danger to the economy arises not from the economic cost of providing an adequate income—through employment or other income payments to the aging group—but to the sociological problems of adjustment of older people in a manner that will provide satisfactions not dependent upon ever increasing money payments. Until these are resolved, economic measures alone are of limited use.

The economist finds himself dependent upon other social sciences at this point. The significance of human motivation was first stressed effectively by Lord Keynes (1), who stated motivation in terms of the "propensity" of individuals to spend, to save, and to invest. This has been followed by more extensive studies, of which the investigations of the Michigan group under Dr. Likert are an excellent example. They have worked, for example, on what consumers' intentions are in the future—how much various groups intend to save, what they intend to buy, and so forth.

So far as economic predictions are concerned—apart from refined counts of what has already happened or of forecasts that are independent or little dependent upon future human actions—there must be a wider joining of forces among economists and the disciplines that can sum up individual motivations into a sound guess as to what groups will do. The extent to which older people will in the future be in the labor force is one of the areas within which the sociologist, the economist, and the psychiatrist must join forces if the answers are to be valid.

Carlson: May I ask how you define labor force? Do you include an old couple or an old person running a small store? Is he a laborer?

Kidd. We include in the labor force anyone who is currently producing goods or services.

Carlson: I see. You have statistics on that, data on all of them?

Kidd: Yes.

Randall: Including the so-called "self-employed"?

Kidd: The self-employed group is included in the labor force. The self-employed are, of course, subject to ranking, depending upon the definition of self-employment. You shade gradually off from the man who works forty hours a week and gets a full pay check, to a person who does part-time work two hours, or the self-employed in a small store. By and large, the figures are good enough to give the order of magnitude.

On these definitions I would not want to spend too much time. When considering the aged population in economic terms, I think you have to define an aged person either in terms of function or in terms of chronological age. For pension plans I see no practical possibility of using a functional definition of aging. You have to start paying at some point just as an administrative matter. On the question of employability and productivity of people in different industries or different occupations, the problem is functional, that is, can the person perform the job?

Stieglitz: Why do you state dogmatically that as far as pension plans are concerned, you *must* rely solely upon chronological age?

Kidd: Take, for example, the Federal Old Age and Survivors Insurance Program with a coverage in the tens of millions where often [illegible] have to be made in a lo[illegible] est of employability or so[illegible] ...t the person has lived so many years, it would be even more difficult. I would not rule that out as an eventuality but as an immediate question; it seems to me you are almost forced for administrative reasons to adopt arbitrary cutoffs.

Stieglitz: You can have arbitrary cutoffs based on ability to work, irrespective of chronological age. What about the ability of the pensioner to engage in self-employment without cancellation of his pension?

Kidd: That relates to his ability to get a job.

Stieglitz: As it stands now they are eligible to Old Age and Survivors Benefits only if they are not employed.

Kidd: They allow fifteen dollars a month.[1]

Stieglitz: But if they work and make more, they are no longer eligible.

Kidd: That is right. I think that is very critical.

Stieglitz: But this is a question of function, not just chronological age. So the present policy really makes for injustice and/or inequity. It certainly discourages effort.

Kidd: It is not that the chronological definition but that the arrangements by which people may continue to earn and still draw a pension are not correctly set up.

Stieglitz: It certainly discourages effort, as it is set up now.

Frank: The agricultural economists in various areas, like the Missouri Valley Studies, have as one of their objectives the removal of a fairly large proportion of the present farmers from the land where farming is uneconomical, with a resultant wasting of natural resources, thereby reducing the labor force available for more productive efforts. What is the thinking now in regard to the size of the labor force that we can project ahead in terms of economic productivity? It is not so much a matter of old age as of restricting the employable group because we cannot adequately, economically, or efficiently employ as many people as are now available. We have curtailed at one end by child labor laws and cut down on the later end by forced retirements.

Kidd: Shifts in the agricultural population seem to be occurring spontaneously. In 1900, 37.5 percent of the labor force was engaged in agriculture and now I should say it is around 20 percent. So that is a very marked shrinkage. It has, of course, all kinds of implications for the aging group because agriculture is a primary source of self-employment, and also the major area in which settled social situations have been shattered, transformed, or modified sharply towards industrialization.

Frank: But there was increasing agricultural productivity

[1] Editor's Note: Since the time of this Conference, legislation enacted by the 81st Congress permits retired workers aged 65-75 to earn up to $50 per month without forfeiting their benefits. There is no limit on the amount that may be earned by retired workers after the age of 75 years.

with that decline in agricultural labor. We have a similar situation in the field of nonagricultural productivity.

Kidd: The productivity of the economy as a whole has gone up at the rate of about 2 5 percent a year compounded, which is a terrific rate of growth. As a result we have been doubling the production in terms of currently produced goods and services at a rate of once every twenty years, leaving out depressions that have been happening for eighty or one hundred years.

Shock: Do you know what has become of the 17 percent that used to be in agricultural employment and are no longer?

Kidd: I suppose they are in the cities.

Randall: The figures given recently for New York State for the 100th anniversary of the Rural New Yorker were that one hundred years ago 85 percent of the New York population was in the rural economy, if you want to call it that, and in 1950 the population is exactly reversed. In other words, approximately 85 percent live in the cities or are engaged in industrialized work and only 15 percent in the actual rural areas of New York State. New York may not be typical but that is the trend in this state.

Kidd: That is nationwide, and furthermore, it seems to me it is likely to continue, that agricultural productivity by and large is going up faster than the productivity of the economy as a whole.

Randall: It seems to me that even what is left in agriculture has become so industrialized that we are losing many of the opportunities for older people which it used to offer.

Kidd: That is right, not only the size but nature of production operations.

Randall: The nature of production operation is mechanical in many places.

Kidd: To continue, the shape of the labor force in industrial terms, the percentage of people in manufacturing is not going up in percent terms but by and large the net shift is out of agriculture into trades and services.

Kuhlen: Is there any marked change in the age composition of the various occupational groups? For example, are those people moving from the rural areas into the cities from the younger age groups or are they pretty well scattered through the various age brackets?

Kidd: That is a complicated story, and one on which current data are not available.

During the ten years from 1930 to 1940 the net "out-migration" from rural areas was concentrated in the fifteen to twenty-five year old groups—that is, among people reaching working age. In the older group the net migration outward was less, with some actual net "in-migration" in the group around the fifty-year mark. Among the group sixty-five and over, the net migration was from rural areas. *People tended, and probably still do, to retire to towns* and cities.

The Bureau of Agricultural Economics of the Department of Agriculture has written up this story in detail (2).

Carlson: We cannot generalize. It seems to me in regard to age of the population that could be productive in mechanized agriculture, that it is far easier to sit and run a tractor than to be behind a plow with a pair of oxen or a pair of horses.

Kidd: Except for the fact that the more heavily mechanized farm operations become, the heavier the investment and the greater the pressure to use equipment as many hours as possible.

Carlson: Have you been on the farm? You don't run a tractor eight hours a day throughout the year.

Kidd: I would still maintain as a generalization that the greater the extent of mechanization the greater the pressure to continue its operation.

Carlson: I was just arguing on the point of the employability of the older worker on the farm.

Kidd: It is true that you rarely have a mass of labor working on integrated operations, so that virtually all of the work force has to work eight hours a day or not at all.

Randall: That has had some effect here in New York State. Our figures show that.

Stieglitz: There is one other factor which plays a role in the old farmer group. Farmers are, as a group, similar to lawyers and physicians in being hidebound by tradition and in insisting upon following old techniques. This resistance to change is greater with older individuals because for so many years they have followed the same pattern. Farmers, lawyers, and physicians are all individualists. That makes rather difficult the utilization of the present

generation of older individuals on mechanized farms. It is the young men who are buying electric milking machines.

Are there any data in regard to the character of accumulated skills in the chronologically aged group? It seems to me that it would be vitally important to know what they had learned to do. I presume you are considering age sixty-five and over?

Kidd: Arbitrarily, yes. I have some figures here on the percent distribution of the work force by occupation in 1910 and 1940. In 1910 there was 4.4 percent of the population in the professions. It went up by 1940 to 6.5 percent, and when the census comes out we will have another set of figures. The farm population has dropped from 16.5 percent in 1910 to 10.1 percent in 1940. The other proprietor group, primarily self-employed went up from 6.5 percent to 7.6 percent. Clerks in the general clerical occupations went up over that thirty-year period from 10 percent to 17 percent which is a very substantial shift. The skilled and foreman group stayed constant at 12 percent. This may not add up to 100 percent when we are through, but it will be pretty close. There was no rise and no fall there. The semiskilled group rose from 15 percent to 21 percent. The unskilled group dropped from 36 percent to 26 percent. Those, I imagine, have quite direct implications when you consider occupational change in relation to the change in the age structure of the population. The semiskilled group is growing; the clerical group is growing; the unskilled group is dropping; the farm population is dropping; and the professional group is rising somewhat. (See chart of reference 3 for similar data.)

Malamud: Isn't the decrease in the number of farm workers actually related to the introduction of machinery?

Kidd: Not only machinery but all the things that enter into the farm productivity, such as: better methods of cultivation, better fertilizer, better methods of distribution.

Malamud: The same thing is true with regard to the semiskilled and unskilled. The number of semiskilled workers is increasing and they are the ones who probably work with machines.

Kidd: That is right, whereas the unskilled group is dropping off. Take the farm unskilled. They dropped from 14.5 percent to 7.1 percent These figures are probably down still further now.

Hoskins: Does not the organization of industrial processes come in about here?

Kidd: These figures on distribution among occupations are really a reflection of all the major forces that have operated on the economy over that period translated into occupational terms.

Stieglitz: Does the same definition of "unskilled" apply now as it did in 1910, or does "semiskilled" today cover what previously was called unskilled? The old-fashioned farm hand labor had more skills than many of the classified "skills" of today.

Kidd: That is right. Dr. Carlson would have some remarks on that. Arbitrarily we classified those as skilled and unskilled.

Stieglitz: The population essentially is the same but we note a shift in the skilled and unskilled?

Kidd: No, I don't think there is any change in the definition that would destroy the validity of these figures. There are some unavoidable shifts in the concept as to what constitutes "skilled."

Shorr: Has reduction of immigration had anything to do with the decrease in the number of unskilled workers?

Kidd: There is a cause and effect relationship there. We reduced immigration because an increase in the unskilled group was no longer necessary at the previous rate. The figures we have for the aged here, and these I suppose can be projected roughly, show quite a rise in the semiskilled with a decrease in opportunity in the unskilled class and an increase in the professions that is proportionately quite substantial when you look at the professional class but not large in terms of the total population. I mention these figures not to present an exposition but to underline the fact that we know too little about them beyond the generalizations of the sort that I have presented. An extremely profitable area of research is to break the occupational data down in greater detail, particularly in relation to the capacities and opportunities of older people. We don't know enough about the age of the labor force. The figures are pretty good but they certainly need refinement. However, there are even now some interesting leads out of these past trends. For example, the percentage of people over sixty-five who are in the labor force has been constantly dropping for the past sixty years. What it was before that we don't know. In 1890, 70 percent of the people over sixty-five were in the labor force, that is, working or seeking work. In 1910 that was down to about

50 percent. What does that mean? If you can assume that this projection will continue—it is a steady trend and it looks as if it is going to be a pretty difficult one to shift—without going into all the reasons why you are confronted with the fact that the proportion of people over sixty-five who are in the labor force has been dropping steadily over fifty years.

Frohlich: Do you have any data on the proportion of people sixty-five to seventy?

Kidd: I don't carry those figures in my head but I assume that the change would be in the same direction.

DeVinney: That would be fairly important because the decline in proportion of people over sixty-five who are in the labor force might be due to the proportion who are now over seventy years old and up to one hundred and above.

Kidd: Another aspect of this is that if past trends continue, the proportion of all people over sixty-five who are in the labor force is going to be smaller but the number of people over sixty-five will be greater. Then if they balance out, the absolute number of people over sixty-five in the labor force may continue about constant. It has been constant for the last twenty years at approximately 2 3 million. Those two trends have just about balanced. The absolute size of the group over sixty-five has been going up. The proportion of those over sixty-five in the labor market has been going down and those figures, I think, are relevant to the earlier discussions of what happens to older people at sixty-five and after It appears that unless something is done, this question of leisure, of attitudes toward work, attitudes of older people themselves is going to become more acute as we have a progressive decline in the proportion of people over sixty-five who are in the labor force. What may happen to that proportion if we have full employment for a long time to come is hard to tell. But this decline has occurred over periods of prosperity and over periods of depression for a number of decades in the past. Those are obviously just hints that come out of these labor force figures for the aged population, and a great deal more work needs to be done on them

Donahue. Dr. Kidd, is it not true that during the war when many older people were employed, there were still percentagewise only between 4 percent and 5 percent more employed than at the present time? The period of full employment still did not bring up the percentage very much.

Kidd: This is correct. Under wartime pressure there was a substantial entry of older people into the labor force. The number of people over sixty-five in 1945 was six hundred and fifty thousand above what would have been the normal peacetime labor force. But even with this absolute increase, the percentage increase was not very large. Conversely, after the war, in terms of the total labor market, that figure has stayed fairly constant; we still have full employment. There has been some displacement of older workers but by no means a mass displacement that would lead to any general sociological problem. The problems of an aging population at the moment lie elsewhere than in unemployment of aged people.

Malamud: Two thoughts occurred to me. First, I was very much intrigued by the point you made that the largest drop was in unskilled workers. I am thinking of Dr. Havighurst's Yon Yonson. That is the type of worker who would willingly give up his work and would not worry much about it as compared with the professional group that has actually increased. Then there is the other factor—I have talked myself into it now—that the development of the machine has caused a drop in the number of unskilled workers. If that is the case, then it is possible that as the machine age has developed, the people who were dropped were those who had been employed as unskilled workers, and at the same time also constitute a large proportion of the old people. It is on that basis we can see both an increase of the unemployed old people and also an increase of old people who want pensions rather than work.

Kidd: Yes, that is a defensible hypothesis although it does not seem to cover the whole story. Then, too, the semiskilled group as now defined includes the millions of people in the mass production industries, the fellows working on an assembly line. By and large you are not going to get any active creative interest in this kind of work. This has a lot of implications for the role of labor unions or other social groups as a substitute for work as a creative center of interest, and for the pressures that these people will generate when they grow old if their emotional needs are not met.

Randall: I am interested in Dr. Malamud's point, just having read a report of a study of people who have either been living on Old Age and Survivors' Insurance or have been forced to accept it. The report stated that there are two reasons why people accept Old Age and Survivors' Insurance (4). One is involuntary acceptance of retirement and the other is because of ill health. In other words, it really is a disability insurance rather than an Old Age

and Survivors insurance. It does not therefore quite carry out the conclusion that you were reaching in relation to these, at least in the present experience.

Malamud: What is the motivation behind their illness? Isn't it possible that the sickness itself may be the motivation?

Randall: You carry me further than I have gone, or any study has gone.

Cameron: I wonder if the economists in looking at the statistics of employment are at all interested in the points of view of Halliday (5), who has written extensively in England concerning motivation for work. Very briefly he points up one or two of the changing motivations which have resulted in decreased output, in longer "off time" from work for any given sickness in England as

with the motivation which comes to work from some of the religions, this business of earning your bread by the sweat of your brow, idle hands to do the devil's work.

Malamud: Idleness is the mother of all sin, etc.

Cameron: Then the general constriction of the picture that the Englishman has of his role in the world due to the great changes that came over the Empire—I wonder if those sorts of things are of any interest in trying to understand changing motivations to work and to produce. Halliday made this point, which is rather interesting and he claimed it is possible to demonstrate that the younger man in England is less capable of driving himself to work than the older man because the motivations are just not there.

Kidd: I think in what the economists are doing that is a major gap to be filled, particularly when it comes to projections ahead. The economists, if their guesses as to the future are going to be reasonable, must rely increasingly on assessment of the general social and cultural pressures as they are reflected in economic activity rather on looking at the census figures, or they may end up very badly off

Frank. The point that Dr. Kidd makes about the collaboration with other disciplines was brought out beautifully here. At the moment from various statistical studies we can draw various inferences about the individual components of that statistical aggregate.

The economists have been prone to do that in terms of certain assumptions about human conduct and human nature. Today through the social sciences, the psychiatrists, psychologists, and sociologists, we are beginning to draw other inferences about human nature and conduct. They are often dissimilar. It reminds us of what happened in the field of physics. The physicists inferred the nature and activities of the atom to be the kind that should behave according to statistical findings as in laws; when quantum physics said that is not the way the atoms actually act, there was heated controversy in physics for quite a while until it was realized that there are two kinds of problems and two different kinds of findings. The data we can get on large statistical aggregates give us findings on large scale regularities and the data provided by the clinical approach to identified individuals give us findings on the dynamics of human conduct. Unless we learn to use both kinds of findings we are going to continue the present confusion and conflicts.

Kidd: At the same time, mass statistics can, without the kind of examination that you point out, provide the other disciplines with some hitching posts in regard to the quantitative importance of what they are dealing with. For example, the fact that only 5 percent of all people over sixty-five live in institutions leads sociologists to concentrate on the sociology of family life rather than institutional life even though the root causes of that distribution of old people among family groups and institutions may not be fully grasped.

Cameron: I think this is confusing. Any elaboration that the economist would make on that basis would still have to make use of the "economic man." If there is anything more inhuman or nonhuman than the "economic man" I don't know what it is. It is an interesting phenomenon that very often many fields of human inquiry, such as the economic behavior of individuals, the military behavior of individuals, behavior of one type or another, are tackled first by extracting the human being altogether. Then when it is absolutely necessary that he should be considered, what is done? A human being is invented who will fit the picture but he is not a human being, he is only an invention.

Hoskins: In previous meetings of this Group we have been over this ground and there seemed to be a fair agreement that there are generally speaking two kinds of human beings, not one kind: the rocking chair group, the people whose ideal is to sit with their $200 a month on a porch and just rock back and forth until death comes along and releases them. Then there is the die-in-

harness group. The whole motivation, the whole psychology of those two great groups is quite different and when the problem arises of translating economics into terms of human satisfaction, if you are dealing with one group you arrive at one set of conclusions. If you are dealing with the other group your conclusions are quite different. Of course the transitional sorts of people who like both to work hard and sit in rocking chairs exist but it is not too fictitious a dichotomy to define the population as being made up of those two classes.

Kidd: There are some figures to bear on that. Of all the people eligible now to receive Federal pensions, somewhat less than 60 percent are actually drawing them. The remaining 40 percent are foregoing the pensions, presumably to work. Look then at the group that is drawing the pensions and abstract out of that the large proportion that is doing so because they are disabled or because they have been fired. The remainder—those able but unwilling to work and drawing pensions is quite small.

DeVinney: I wonder about this dichotomy of the human species into just two categories with respect to retirement. Doesn't it reflect complete dependence on speculation, somewhat after the fashion of the classical economists' speculations about economic man? And isn't it more probably true that the population is far more complex and complicated than that, and that we don't know very much about it? I would suspect that there are quite narrow limits to how much we can find out about it by the introspections of as highly selected a group as we are or by general observations and personal interpretation. One of our main needs, it seems to me, is for research-minded people to go out and find out what people do think and what their motivations are, and I think that can be done with techniques that are currently available.

Hoskins: I might call your attention to the fact that there is research going on along this line, especially by the people who make their living selling things to the American public. They have to know what the American public wants.

It [illegible] the
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[illegible] e advertise-
[illegible] They know
[illegible] source of re-
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Fremont-Smith: And which needs to be scanned very critically as to validity in terms of actually representing in any sense what the people want. I do want to register a small protest. I would not want to accept the data referred to any more than I would accept other kinds of polls, for example those that the radio people conduct.

Randall: Hooper rating.

Fremont-Smith: About as good as that. I would like to see a separate valid check made on that.

Hoskins: It ought to be done, of course, but I understand the sales of insurance have gone up measurably and pretty quantitatively.

Fremont-Smith: It does not prove that people want Lipton's tea. I don't believe so.

Randall: It might be well to point out—this is something that was pointed out to a group of us who were struggling with the same thing recently—that there is only one company carrying that ad. The others are not although they are of course trying to sell some kind of annuity insurance.

This idea that one can retire on $200 a month—I assume that we may talk a little bit about the economics of supporting one's self in old age—seems rather mythical in any kind of paradise. Mr. Hochman of the I.L.G.W.U., in discussing that with us, reported after a good deal of research on trying to find the person who wanted this as his future, said he had finally given up until he was driving up to the Academy of Medicine. He said he asked his cabbie whether *he* wanted to retire, whether *he* was *looking forward* to it, and the *man* said, "Yes." He felt he had finally found one man who he could report wanted to retire, and he said, "What are you going to do when you retire?"

He said, *"I am going to open a store."*

So I have a feeling that we have not really reached the fundamentals of what the person really wants in the future even with this discussion.

DeVinney: It strikes me that it would be surprising if there were not a great deal of variability in human beings in terms of their motivations and interests and other factors which would bear on a variety of successful modes of adjustment to old age. And I

think we could learn a great deal about this from the people who are retired or approaching retirement.

What is needed, and the possible type of research, is to draw representative samples of various segments of the population in various occupational groups and various age groups and find out by interview methods what their conscious wishes and plans and desires are, and what factors relate to those wishes and plans. After that research is done we will know a great deal more than we do now about the general sentiment of the population.

Hoskins: It is fortunate that you included "consciously desire." The people who are addicted to "depth" psychology insist pretty unanimously that people for the most part don't know why they do the things that they do nor do they know what they really want.

DeVinney: I would not for a moment argue that there are not underlying motivations of which people are not altogether conscious and which have a great deal of influence on their conscious motivations and behavior. I would stoutly defend the proposition, however, that a great deal of information which is not now available but would be useful to have, can be secured by interviewing people about what they know and can say at the conscious level about what they do or want to do and why. These things are not irrelevant, though they may not exhaust the picture of the motivations which impel people to do or want the things that they do.

Fremont-Smith: A good interview can go also a little further so that you can do two things in a good interview.

DeVinney: Skillful interviewing can do a great deal [illegible]
[illegible]
corr [illegible]

Hoskins: Is it a fair question, Dr. Malamud, whether anything quantitative has been done by the so-called "depth psychologists" as to what proportion of determining motivations is of conscious level and what proportion is unconscious? Can you draw any kind of a rough figure there?

Malamud: It is a fair question, but I do not have the answer.

Fremont-Smith: It seems to me that this kind of a situation exists. You have unconscious motivation reinforcing conscious motivation with your unconscious motivation at times being diametrically opposite to the conscious motivation, in addition you can also have unconscious motivation which is divergent from but

not contradictory to conscious motivation. Therefore when you try to quantitate that you find yourself stuck. On the other hand, as a first approximation you can reach fairly definite conclusions. When you find someone with actions which are strongly deviant from the expected, or which get them into serious trouble repeatedly, then you look for a considerable role in unconscious motivation; or, if you find a person with a violent conscious motivation which that person himself cannot explain or give adequate reason for, and which seems out of all proportion to justification as a great anxiety to do something, a tremendous compulsion, then again you look for an unconscious motivation which is reinforcing his conscious motivation. I think that within that frame of reference one can see how to approach this problem, which almost excludes, as far as we are now able to think about it, a quantitative evaluation because these things summate, contradict or influence each other latterly.

Malamud: I would very strongly support that and I would like to say a word about it in relation to a question which Dr. Kuhlen asked me previously when you interrupted our own private research conference outside. We need not think that only through psychoanalytic technique carried on with each individual for two years, can we find the unconscious motivations. Obviously, the more we look, the more we find. It is not always so because sometimes if we go too far we may get too much, some of which may not be true. You cannot have an interview with an individual for one hour and not uncover a good many unconscious mechanisms.

You asked, Dr. Kuhlen, how we do that. There are various techniques. We have, for example, the projective techniques which need not take too much time. The projective techniques are valuable because the person is not on guard when he is being given such a test. It will always bring out a great deal of information which is not consciously known to the person being interviewed. So I think that if we are satisfied with obtaining a fairly adequate picture, even one interview with a person will yield a fair amount of information as to the motivations.

Kuhlen: I heartily agree that we can get information regarding motivation through interview approaches, although interviews should not be expected to give the total picture. For example, we were making a study of job satisfaction at Syracuse by means of a printed questionnaire, and included the question, "What do you want to be doing ten years from now?" We thought this question,

which could as well be asked in interview, would yield material bearing on goals and motives. We had some rather interesting results, particularly as regards single women teachers.

Around twenty to thirty years of age the outstanding goal was not occupation; it was to be married and have a family. Around thirty that response began to drop out sharply. Apparently, thirty to thirty-five represents a transition period, perhaps a very critical period in the lives of single women who want marriage but see hope fading as they get older. Substitute goals begin to emerge—occupational goals. The goal expressed by women in their thirties was to get *another* job. This response implies a reorientation of values and purposes since it suggests new concern with occupational advancement, rather than stopgap employment until marriage. Still later in chronological age, the most frequent response was "to stay in the same job," suggesting concern with security. Finally, the respondents in the forty-, *fifty- and sixty-year* age categories began to stress interest in *retirement*. I have elaborated this example to show that even a single question can elicit meaningful information on age trends in motivation.

The open-ended type of interview procedure, developed especially by Likert at the University of Michigan, would seem to be particularly useful. In this method, general questions are asked the "interviewee"—questions which set the stage but do not direct the replies along specific lines. Interviewers are trained to use standard probing questions when necessary to elicit a fairly full response. The interviews run about an hour or an hour and a quarter each. It is possible to take these "free" responses given in interview, code them, punch them into IBM cards, and analyze them statistically. Unfortunately, the Michigan group has not been interested in the age variable.

However, one can find examples of how unconscious motivation may be reflected in replies. For example, it was found—I am not sure I am reporting this accurately for this was described to me by one of the members of Likert's staff—that all the way through an interview dealing with work satisfaction certain employees seemed to be happy and satisfied with their jobs and had good attitudes toward the company. Then one question was asked: "Would you recommend that your son work for the company?" The replies were sometimes violently contradictory to the picture apparent thus far. They seemed to reflect subconscious attitudes or at least attitudes that were not immediately on the surface.

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Malamud: Subconscious identification with the child and anticipating in the child that which I don't even hope I am going to get.

Carlson: How in the world can you put such an answer in the category of unconscious motivation?

Kuhlen: I am not putting it there. I am simply guessing that the respondents were not aware that they held the attitudes that seemed to be implied in their responses. In any event, something doesn't have to be *either* conscious *or* unconscious. There are various levels of consciousness representing a continuum from things that can be very readily reported by an individual down to things that are completely repressed and cannot be recalled at all or only under very special circumstances, such as under psychoanalysis, but which might nonetheless be reflected in, and may determine his behavior.

Fremont-Smith: This is an example, though we cannot prove it. However, one could say there would be some who were not conscious of the fact that they were dissatisfied with that company for themselves and yet would state in clear tones, and perhaps for a reason which was not the real reason, that the last thing they want would be to have their sons go to work there. You would then infer, from that, and probably correctly, that they themselves were deeply dissatisfied with their own jobs. They had an unconscious dissatisfaction which they did not allow themselves to recognize. I think that is the kind of situation. I am not saying it is so in this case.

That is the kind of situation in which one does reveal an unconscious attitude, an unrecognized attitude.

Carlson: That is your philosophy and speculation.

Fremont-Smith: No, sir. It is a question of validation. You can then validate that by going back to the person and bringing out something which he himself then recognizes that he did have but had not appreciated beforehand. That has been done again and again and again. It is not just a speculation; it is a speculation which you then validate. Sometimes you invalidate it but it has be validated to be accepted as being unconscious motivation. It is the same thing as if you were to hypnotize the person and under hypnosis he would bring out the fact that actually he has hated the work he was doing, but for one reason or another that hatred has not become conscious to him.

I bring this out because I think that we cannot deny unconscious motivation. There is too much evidence, too much experimentally reproducible evidence on that to make it possible for us to deny it.

Frank: This discussion points to one possible line of research that would combine some of these interests. If I am not jumping ahead too far, you refer to the "Ham and Eggs Movement" as an economic demand for more income. It is so interpreted and is generally considered as such. I question very seriously whether we can accept that interpretation as sufficient. If we studied the people who are most active in this movement, using projective techniques, interviews, group dynamics, and so on, we would find that the demand for increased pensions and allowances was often a way in which they could mobilize and express a great deal of resentment and hostility toward life. As we know in industrial relations a demand for more wages may not be an economic demand. It may be an expression of the only way you can say, "This is a hell of a plant; I don't like the superintendent." That is the kind of study in which there can be combined psychiatric, psychological, economic, and sociologic approaches to the aging individual, and we can obtain some illuminating findings. Instead of trying to placate by economic allowances, legislation, and increased budgets, perhaps some kind of mental hygiene group therapy might make a lot of difference in the national economy.

Kidd: If we can develop the mechanisms to maintain fairly full employment, the net economic burden on the whole community of providing a decent income for the aged won't break the community and won't lead to inflation. It is a problem that can be taken care of in our stride. If in a full employment situation we are forced to divert such a share of the national income and divert it in such ways that the economic applecart is upset, we will do so as a result of social pressures reflected in demands for pensions but not arising ultimately from economic insecurity. So I think the problem of providing decent income to the aging is an economic problem only in part. It can be intensified extremely by noneconomic factors. For this reason, the resolution of the economic problem lies almost equally in the social field.

Shorr: Does not that apply also to the labor organizations?

Kidd: Yes, it is the problem of our entire society. What satisfactions you can give to an industrial population to keep it

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to return home. Whereupon this aroused anxiety which was certainly not rational, not *understood* by these people, turned into hostility. What did they do? A surging mob rushed upon the radio station, burned it down and killed eight or ten people.

I think that in considering social phenomena, psychological [illegible] of organ system, we can [illegible] rtant role of motivations which the individual himself cannot understand; indeed he is seldom aware of their existence in whole or in part.

Carlson: May I say that in the examples you have given of labor asking for higher wages because they hate their foremen or something like that, in my estimation it is neither good English nor good science to label the motivation unconscious. The fact that the leaders take advantage of this hate to ask for more wages on the basis that it may be needed of course is not unconscious—that is artistic lying.

Fremont-Smith: I agree with you, but they are taking advantage of the unconscious forces.

Carlson: That hate of the individual, the foreman, is not unconscious. That is really there, brother.

Fremont-Smith: There is good evidence that it is both there and not there. There was the study of the Western Electric Company, very carefully done through the kind of interviews about which Dr. Kuhlen was speaking, which brought out the fact that there was a good deal of aggression and hostility toward the foreman and toward the company, which was not recognized as such by many of the individuals. It was misinterpreted.

Kuhlen: One of the major difficulties in this discussion is that we are not together on what we mean by "conscious" and "unconscious." Dr. Malamud, would you like to say something on that?

Malamud: It would be difficult to do so. Perhaps Dr. Cameron can.

Kuhlen: It has been implied that that which is unconscious is not there.

Fremont-Smith: Not in my implication but in some of the discussion, in Dr. Carlson's comment.

Carlson: No, no!

from chopping off its economic nose, so to speak, is difficult to determine.

Fremont-Smith: What has actually happened in some situations is that the labor organization has taken advantage of and mobilized the partly unconscious and partly unrecognized motivations of the working man and working woman. They have mobilized this in terms of demands for an increase in salary when the dissatisfaction on the part of the laborer was not in fact in terms of salary.

Kidd: That may apply even to pensions.

Fremont-Smith: It was the dirty toilets and attitudes of some of the executives which were the real causes of the demand for increased wages. Leaders often take advantage of a mass psychological situation where the consciousness of motivation is blurred, and as a result the individuals react as a group and with considerable violence. This is a very important point and that is why I keep coming back to the fact that we have to accept the concept of an unrecognizable undercurrent of circumstances in the individual. Perhaps the words are wrong and we should find others. However, we must understand and study those motivations in individuals and in groups not only in this field but in every field. Again I want to remind you—I think I may have mentioned it to this group—of the Orson Welles' broadcast. There is no rational way to explain the panic that was produced in some several million people in this country by that broadcast of the invasion from Mars. This was repeated in Quito, Ecuador, not very long ago, and I am going to take a moment to describe it. One of the things we know is that when you have unconscious anxiety it is very readily turned into hostility, conscious hostility against the object producing the anxiety. In Ecuador, the Orson Welles' broadcast was reproduced verbatim with the added factor that a neighboring town had already been obliterated by the crowd which had come from Mars. This was at 10:30 at night. The population was urged to keep calm. The high officials pretended to speak to the people and told them that such measures of defense as could be taken were being taken. People rushed into the streets and there was a major panic. When the people at the broadcasting station discovered that they had let themselves in for just what had happened with the Orson Welles' broadcast in this country, they tried to remedy the situation by announcing over the radio that the broadcast was a joke and not to take it too seriously but to be quiet and

to return home. Whereupon this aroused anxiety which was certainly not rational, not understood by these people, turned into hostility. What did they do? A surging mob rushed upon the radio station, burned it down and killed eight or ten people.

I think that in considering social phenomena, psychological phenomena of individuals, or the behavior of organ system, we can no longer ignore the tremendously important role of motivations which the individual himself cannot understand; indeed he is seldom aware of their existence in whole or in part.

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Carlson: No, no!

Kuhlen: You made the comment that if it is not conscious it is not there?

Carlson: There are many unconscious states but they don't direct the behavior of the individual.

Fremont-Smith: Supporting evidence has been presented but it does not appear to satisfy everyone here.

Frank: May I raise another question of controversial nature? Dr. Kidd has raised this point, "How can economically dependent aged be provided 'adequate' income so that the net economic burden is minimized?" A question we ought to raise is whether we are really trying to minimize the net economic burden? From one side we say that old age pensions are a charge upon our economy, but it is not fantastic to say that old age allowances provide one of the effective ways to distribute income in order to maintain purchasing power in a money economy where people must buy things to keep the economy going. Perhaps we have to maximize rather than minimize this distribution of unearned income in order that the people who will be the purchasers will have enough money to buy goods and services, since in a more productive technological economy the working force will be diminished.

Kidd: When I said "net economic burden," I didn't mean necessarily keeping money payments to older people as low as possible. I meant the volume of payments and source of funds and the mechanics of transfer that will make the net burden on the economy a minimum. The effect of purchasing power provided to older people through pensions and other transfer payments may be one of the offsetting factors under certain conditions. I am not one of those who believes that provision of adequate purchasing power is the key to our economic problems. Levels of investment and the avoidance of constrictive cycles that can proceed even though purchasing power remains constant have to be taken into consideration. The exact role of purchasing power has been debated for some time by economists, and the debate will probably continue for years.

On the point of a decreasing labor force in a highly productive economy, I think it important to keep in mind the difference between man hours required per unit of output and the total demand for labor. Man hours per unit output is dropping rapidly, and must continue to drop as an indispensable condition of rising living standards. This by no means should lead to the conclusion

that employment levels must drop as productivity rises. Our whole economic history is a story of rising productivity, declining man hours per unit of output and rising total and per capita output.

I would like to point out, on the question of industrial stresses, that they are obviously deeply laid in an industrial society. It seems to me that these stresses are firmly built in because of the drive to increase the productivity of the economy. They are going to be hard to get rid of. Getting rid of them will involve a choice of fewer goods and more income in turn for a happy rather than a jumpy population. Translate that into specific terms. The work week has been dropping quite rapidly. It was sixty hours in 1890. It was forty-four hours in 1929. It is down to thirty-nine hours now and probably it will continue to drop.

We have traded output for leisure. This economy could produce more if the hours of work were lengthened.

In a machine economy, with large segments of it mechanized, you put people in situations where they cannot get satisfactions out of their work itself. It is in the nature of the economy to set up a large group of people who are going to be, I would imagine, dissatisfied from now on. At the same time it is an extremely productive mechanism and to shatter that would involve a decrease in the rate of increase of productivity. The drive for high output per hour is one of the factors that create difficulties for older people in getting jobs.

Since these things are rooted culturally in the economic system, it seems to me that for sometime ahead we are going to find employment of older people a continuing problem. Mechanization tends to emphasize the qualifications for work that older people are relatively weak on. We could probably absorb the older population with no difficulty if we operated under something like a war economy. When we are not operating under forced draft there is—whether it is prejudice or actual lessened productivity of the older workers—the difficulty of unemployment

Hoskins: The statement is frequently bandied about that over the past decade or two the spectre of insecurity has become more and more potent as a motivation leading people to accept things which they would not have accepted twenty years ago. I think that is a central problem in your thesis. What is your feeling about that, the potency of the insecurity motive now as compared with ten years ago and twenty years ago?

Kidd: I don't see it as any weaker. It seems to me—this is just a personal philosophy—the depression of 1929 and the years that followed have left a scar that is far from healed. I suppose that is particularly true in the older age groups. To what extent this urge for economic security is derived from some other elements of insecurity, personality, or living, I don't know. Whatever the root source of personal insecurity may be, it is reflected in large part in the desire for economic security because economic security is tangible and something that can be grabbed hold of. There we are edging around to this internal question, and basic one, of *security versus incentive.*

I would like to discuss the question of total productivity of the economy in its relationship to an aged population. One thing that you can be fairly certain of is that the dependent group as a whole is not going to increase relative to the population in the next two or three or four decades.

Shorr: It is not going to increase?

Kidd: I don't think so.

Randall: Quantitatively?

Kidd: In percentage terms. The percentage of dependent people, aged and young, in the population is more likely to remain constant than to grow because of the decrease in the younger economically dependent age group. I think that is important in economic terms. When you think of the total term of dependency in the country you get quite another picture. If you look solely at the growth of the aged population—jumping from fourteen million in 1940 to twenty million in 1960—the economic burden looks tremendous.

Shorr: Suppose that there is an increasing tendency to prolong the education of the youth and therefore to prolong the period of dependence, aren't those factors now operating to increase the dependent group?

Kidd: I think that even with moderate postponement of the age at which people begin to work, the total number of people in the economically dependent age brackets is likely to drop both in terms of the total number of the group and the percentage of the total population.

Shorr: If the total population increases that would make for a larger dependent group.

Kidd: It would, but the point I am making is that the total number of people in the group may not increase even though you push the age of entry into the labor market up a bit.

DeVinney: How is that influenced by the very dramatic increase in births in the last few years?

Kidd: If the birth rates of the last few years continue, that would still be true.

Kuhlen: The birth rate already is going down.

Kidd: It is beginning to drop. That was the postwar bulge.

DeVinney: We are going to have a big bulge in the younger dependent age group for nearly twenty years and then it will probably drop off.

Kidd: That is true. We need not explore precisely what the figures are The birth rate may stay high, and all forecasts thrown off. There is an area of research on the total size of the dependent age group in relation to the total population.

Randall: Isn't it important to find out what the character of services are that will be needed for the different dependent groups? We have had a large young dependent group to now. There is to be an addition to the older group in the population and the character of services will necessarily have to be adjusted to that.

Kidd: Yes, we have a schoolroom shortage now. Eventually we will have an excess of elementary school rooms and high school rooms. Eventually it is possible that they may be available for adult education as suggested by Dr. Carlson.

Donahue: There is another problem, however While it is predicted that the proportions are going to stay relatively the same between the dependent and the working group, the general attitude toward caring for the young is quite different from the attitude toward caring for older persons. The middle earning group may be willing to support youth but relatively unwilling to support the older members of the population. These attitudes will have to be considered in academic planning.

Randall: That is what I meant—the character of the service will change wherever the shift in age composition takes place, whether it is a general community service or a specialized type service.

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man hour will continue to rise for four or five decades at least. You don't have to worry about any limitation on output as the result of an absolute shortage of raw materials or an absolute shortage of the people to produce. Of course when you turn to the problem of how those potentialities are going to be made actualities that is another problem. It seems to me that given full employment, the economy is potentially capable of producing for the aged without any undue strain.

Shorr: Does that take into consideration all the other concurrent benefits that are being given, such as veterans' care?

Kidd: Veterans' care, schools, and all services provided by government to the people. Then there is a remaining area: how the income is to be transferred to aged people. I might mention here again what I mean by "transferred." For example, the Federal Old Age pension is a reserve fund that is built up through a payroll tax. You might say that the pensions paid this year are paid out of a trust fund. The money has been accumulated and the recipients this year get the money that has previously been put into the trust fund.

In economic terms the situation is somewhat different. The goods produced this year are for the most part consumed this year. The reserve that is built up, the taxes that are collected, and the bonds that are in the reserve are merely the mechanism through which that transfer is brought about. I, nevertheless, think that the fiction—if you want to call it that—of a reserve, and the imposition of a payroll tax is quite important in terms of people's feeling that they have contributed to their own retirement. With the imposition of a payroll tax, people do contribute to their own retirement but not the way it appears. Through action of the reserve, they simply give up part of their current income. That income is transferred to the older population in that year. When the younger people become old, the next generation finances their retirement out of current production and income.

In that connection I think there is a very profitable area of research in the attitude of the older people towards their sources of income. For example, many people receive public assistance. That is simply paid to old persons on a demonstration of need. It is not an earned right. What do older people think about such payments? Do they consider them degrading? Is there any difference in the minds of old people between earned pension payments and charity?

Shorr: Will the actual needs be less if the numbers are shifted from early dependence to late dependence in terms of goods?

Randall: Not in quantity but in type of goods.

Shorr: Not in quantity?

Kidd: Shifts in consumption of types of goods, shifts in the demand for goods, the nature of housing, the type of clothes, the type of food, I don't worry too much about that. People will continue to buy and there will be people willing to sell them if they can make some money. There is a flexibility in the economy to take care of these shifts. I would like to make another point which depends vitally upon the maintenance of full employment. Given the demonstrated potentialities of the economy, if you project past trends, they are startling. The economy is now operating at about the $255,000,000,000 level—the current price of the goods and services being produced. As I said, that represents a doubling over the past twenty years. That in turn is doubling the years preceding that. Project that into the future, which is not at all fantastic, since it has happened several times in the past. The economy itself is an amazing instrument for the production of goods and services, and given the exploitation of those potentialities, the economic burden of supporting an aged population is nothing staggering at all. I speak of this as a burden in the sense that they are not currently producing, and goods and services are transferred to them although they perform no current work. This to some extent represents a fixed cost on the economy. To the extent that the total output drops, the burden of fixed cost is going to rise sharply. Moreover, I would judge that with a sharp drop in output and employment the demands for economic security on the part of the aged will rise and perhaps what will be transferred to them will be larger in absolute terms than if the economy were operating at capacity. This would multiply the burden The absolute volume of goods transferred to the aged would be greater, and it would be a much greater proportion of the total output of the economy.

Hoskins: From what you have said it follows that output is now following a compound interest curve. In the very nature of things that curve has to change, because the total amount of available basic raw materials is limited. Have you any guess when the curve will begin to level off?

Kidd: None whatever. It seems to me that without atomic energy or any startling development but merely as a result of the myriad things in the economy increased productivity output per

Kidd: The hypothesis that the State has assumed responsibility for everyone's problems, economic and otherwise, with a concurrent decrease in the responsibility of the individuals.

Carlson: The belief of it would not make it true, would it? The fact that people believe one philosophy or another does not prove that it is true.

Randall: But it helps to operate a program.

Kidd: I should think you might have a clearly expressed attitude among people receiving Federal old age pensions. They might say, for example, "I know I put money into this. It was deducted from my payroll while I was working over a thirty-year period. Therefore I feel that I have a right to this just as much as I had a right to wages. After all, I contributed."

Then you take a group of people who are receiving charity—old age assistance. They might say, "I don't want to but I have to eat; I am sorry that I have to take this handout." If you did get these clearly different responses and they seemed to be sincere and unprompted expressions of attitude, it would be quite significant.

But if both the groups receiving old age pensions and assistance said, in effect, "I am getting some money from the Federal Government I am not quite sure where it came from. I am glad to get it and glad I don't have to work for it," this would, to my mind, indicate a very serious situation.

After all, doesn't it make some difference whether people know where their income comes from and whether or not they are exercising an earned right or receiving alms?

[illegible]

point [illegible] the manner of p[illegible] to state and local communities the handling of the old age assistance program may perhaps be something to be approved rather than to continue with our so-called contributory insurance system. There [illegible] pension as contrasted with an old [illegible] Moreover I should like here to s[illegible] the case which was quoted to us of Yon Yonsen is atypical in my experience.

Kidd: There is a lot I would like to know about Yon Yonsen. Was he a pensioner or receiving assistance, and how much?

The Federal pensions are operated on the basic principle that it is sound to have people contribute to their own retirement. If it should be demonstrated that older people don't care and don't know whether they have contributed or not contributed, and don't differentiate between the sources of their income, it would be a very serious matter. It would certainly be reassuring to know on the basis of a good sample and careful examination what people do think about the source of their income in old age. That goes too not only for federal pensions but to company plans, company-union plans, receipt of income from relatives and descendants.

Shorr: I have the notion that as far as inherited wealth is concerned there has not been any particularly strong guilt feeling that comes with the utilization of these funds, with rare exceptions.

Malamud: Unless it is unconscious.

Shorr: And in many instances the source of the income is not too scrupulously looked into. It would be the *manner* in which the income, the funds were handled with respect to the elderly people that might make a difference in their attitude. Can it be said that the ease or the difficulty of getting funds, and the amount of red tape and necessary investigations, decides the attitude towards the funds? Does it have a connotation quite different from money or property inherited?

Kidd: No examination of need is involved in payment of Federal pensions—Old Age and Survivors' benefits. Workers contribute toward building up their own pension rights, and they probably know it because throughout industry when workers get their checks there is a notation "deduction-social security."

Shorr: I am talking about old age assistance.

Randall: That is administered on a means test, which to most people is very unpleasant, which is expressing it mildly.

Carlson: With this as a research project, what are the people to do who receive these aids from the Federal or state governments? What, after all, would be the meanings, or value, or significance of the findings under a philosophy that has decreased the responsibility of the individual to scratch for his own living and replaced it by the philosophy that the State owes him a living?

Kidd: What you are doing there would be testing the extent to which that hypothesis is true, because the people—

Carlson: Which one?

receiving Old Age and Survivors' Insurance. There is a very real difference in the community attitude toward recipients of relief or assistance, as distinguished from those who are receiving benefits from insurance. This also is true of people's attitudes toward themselves.

Cameron: A very minor thing, but my psychiatric advisers tell me that I had better say it or it will worry me. It is this: I wonder if there is not some indication of what people do think of these obligatory plans in the difficulties that Mr. Taft got into a few weeks ago when he announced that money contributed in any given year is not saved up towards the time when the person is going to receive it but spent for other things. I believe at that time there was a terrific outcry, a scandalous state of affairs. People thought somehow that their money was put somewhere in a sock.

Kidd: What he said is perfectly true, but to my mind it has nothing to do with the mechanism of how you transfer the funds.

Hoskins: Has not the discussion become a bit unrealistic? We seem to be talking about fine fellows with a sense of *noblesse oblige*, and all that sort of business. Don't we have to face the fact that there are a good many people in this country who by impulse are out to get all they can at no cost at all, if possible? That is the common thought. I wonder whether that is true or not.

Randall: No.

Hoskins: You who work directly with people—

Randall: I would say that the situation is typical. It is the old story of having a small percentage of people give the general public the idea that everybody who is receiving assistance is worthless. However, the percentage is so small and we have so much publicity for that small percentage that the public never realizes the large number of people who just cannot be classified with this group.

Kidd: To return to statistics, I think what happened to the labor market during the war was revealing. All the people called "bums" before the war were working. It was awfully hard to find "bums" to put to work

If you look at the productivity of the economy apart from—I think it is valid to do so—how hard a man labors or for how many hours a week he works, you cannot have a large population group of unproductive people, of nonproducers, or the economy could not

Randall: That is right. There is a great deal we should know. However, the thought was left with us that here was a man who was quite happy with what he was getting, whether the money came through old age assistance or some other source; that situation is atypical. If his funds were from insurance it is apt to be more typical than if it were received from public assistance funds. Certainly the amounts received from either public program are not adequate for most people at present. It seems to me that we have a great deal that needs to be tested in social planning in order to find out what people really want, what we have done *to* people, and what we have set up as a means of providing for the economic floor of old age. Under any system, this is no more than minimum.

Kidd: Is there a way that you can provide income with maintenance of self-respect, with maintenance of initiative to earn more money while you are working so that you can take your pension when you retire? If you can demonstrate through a contributory system that you can get those results, you have a bulwark against what seems to me to be a pernicious extension of charity at the expense of a sound contributory system.

DeVinney: I wonder if the essential point here isn't whether or not there is a general recognition of a right involved. If there is widespread consensus that, after having given a working life of service to society, people beyond sixty-five should be retired and maintained by society as a matter of right, and if this is generally done, would there be any real problem concerning self-respect? I don't believe so; and I would guess that whether society decides to do this through a contributory or noncontributory pension plan won't matter particularly.

I think we have to be rather cautious about assumptions we make concerning what happens to self-respect or moral fiber under different systems of retirement. Many business executives who work for large corporations in this country are retired at a given age on noncontributory pension plans and supported very handsomely the rest of their lives. This does not appear to undermine their self-respect or moral fiber. The point is that this is generally regarded as a wholly appropriate way of dealing with executives who have given the specified amount of service to the corporation.

Randall: There is not any means test applied to these people. You use the word "aura." I would use the word "stigma," for people who are receiving old age assistance in most communities are stigmatized very definitely as compared with people who are

Randall: That can be a consideration.

Carlson: Yes.

Hoskins: Ladies and Gentlemen, this brings us to five o'clock, and the pattern is to adjourn at this time.

Unless there is objection, we will declare this session adjourned.

REFERENCES

1. KEYNES, J. M. The general theory of employment, interest and money Macmillan and Co, London, 1936, p. 403.
2. BERNERT, ELEANOR H *Volume and composition of net migration from the rural farm population, 1930-40, for the United States,* [illegible] s. Bur. Agr. Econ, Wash- [illegible] eographed)
3. [illegible] Stanford University Press, [illegible]
4. [illegible] M L Resources of beneficiaries of Old Age and Survivors Insurance *Soc Sec. Bull*, 12, 4, Nov 1949.
5. HALLIDAY, J. L Psychological medicine: a study of the sick society Norton Co, New York, 1948.

have evolved the way it has. I suppose there is a normal distribution of people on a scale from "bums" to Christlike. I would not say it is anything but a normal distribution, so you have a few tailing off at both extremes.

Fremont-Smith: I would like to hazard the generalization that when in any community or in any country there is a disproportionate number of people in the category of which you speak that then is a reflection on the community in which those people grow up and the responsibility is ours, ours in a broad sense. When any significant number of people in the middle or young years have an attitude of getting something for nothing you have a good place for research as to what happened to them in adolescence or the early work years to develop that kind of an attitude. Therefore, I think simply to accept them as "static bums," so to speak, would be going contrary to everything we know about human nature.

Hoskins: It would be very clarifying to public opinion if we had clean-cut research on that. It would be somewhat difficult to carry out but I would like very much to be convinced that these are aberrant specimens and not at all representative.

Fremont-Smith: Coming from aberrant communities, not aberrant specimens perhaps.

Shorr: You have to subtract this particular group from those receiving aid just as you have to subtract the unemployables, except under very extraordinary conditions as during the war, from the unemployed group. They probably bear the same proportion to the total group as the unemployables do to the total unemployed population.

Kidd: I would say that upon an examination of the public assistance rolls in one city or another you could dig up some malingerers who should not be receiving benefits.

Randall: Less than five percent.

Kidd: I would ascribe that to the mechanism. There are better mechanisms for providing decent living to people who need it and cannot make it themselves—who are in need because of no fault of their own.

Carlson: That raises again the question whether again we could decrease the percentage of these so-called "bums" by better continued adult education.